



# MANAGEMENT PLAN

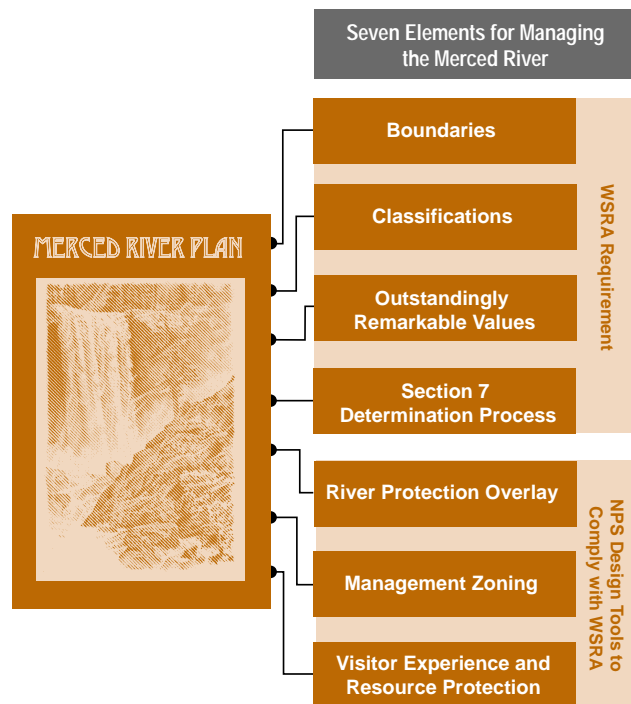
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## Management Elements

The Wild and Scenic Rivers Act calls for the development of a comprehensive management plan to preserve the free-flowing condition of the river and to protect and enhance the unique values for which the river was designated Wild and Scenic. The *Merced Wild and Scenic River Comprehensive Management Plan* (*Merced River Plan*) does not specify detailed actions, but provides broad guidance for future approved actions that affect the river corridor. It applies seven management elements to prescribe desired future conditions, typical visitor activities and experiences, and park facilities and management activities allowed in the river corridor. The management elements are detailed in this section of the plan and include the following:



*Nevada Fall*  
 Painting by  
 Thomas Hill, 1889  
 Courtesy of  
 Yosemite Museum

- **Boundaries** define the areas to be managed under the comprehensive management plan.
- **Classifications** (Wild, Scenic, or Recreational) are applied to each segment of the river corridor and are based on the existing conditions in that portion of the corridor.
- **Outstandingly Remarkable Values** are the river-related values that make the river segment unique and worthy of special protection. They form the basis for the river's designation as a Wild and Scenic River.
- The **Wild and Scenic Rivers Act Section 7 determination process** is a procedure to ensure that projects in the bed and banks of the river do not directly and adversely impact the values for which the river was designated Wild and Scenic.
- The **River Protection Overlay** is a buffer area within and adjacent to the river that allows for the protection and restoration of natural and aquatic ecosystem processes.
- **Management zoning** seeks to protect and enhance the Outstandingly Remarkable Values of the Merced River while allowing visitor access to the river corridor. The various zones are applied to each segment of the river corridor to allow for desired future uses and resource conditions.
- The **Visitor Experience and Resource Protection (VERP)** framework guides research and monitoring activities to identify indicators and set standards for assessing appropriate levels of visitor use and facilities in each zone within the corridor.

In addition, a set of mitigation measures must be applied to future actions and projects guided by this plan (see Appendix B, Requirements for Project Implementation). These requirements ensure the protection of natural and cultural resources, Outstandingly Remarkable Values, and the free-flowing condition of the Merced River as projects are implemented.

The *Merced River Plan* meets important resource protection goals while also allowing for appropriate levels and types of visitor use within the river corridor. The intent of the *Merced River Plan* is to protect and enhance all Outstandingly Remarkable Values with a focus on integrating the *Merced River Plan* goal to “protect and enhance natural resources” with the goal to “provide diverse recreational and educational experiences.”

Given its combination of management zoning, boundaries, classifications, and River Protection Overlay, the *Merced River Plan* enables the National Park Service to protect resources within the river corridor while also ensuring appropriate levels and types of



visitor use. This in turn enables the National Park Service to fulfill the mandate of the Wild and Scenic Rivers Act without compromising the National Park Service's ability to manage the park and the El Portal Administrative Site in accordance with other applicable laws and policies.

With regard to the specific factors contained in Section 1274(d) of the Wild and Scenic Rivers Act, the adoption of the *Merced River Plan* satisfies the act's requirements for a comprehensive management plan. Future development of lands and facilities would be guided by all seven of the management elements, as would resource protection. User capacity would be addressed through the elements of river classification, the River Protection Overlay, management zoning, and the VERP process. Resource protection, development of lands and facilities, and user capacity also would be managed pursuant to existing National Park Service authorities in the Code of Federal Regulations (Title 36) and the Superintendent's Compendium, as well as under general National Park Service policies, such as those pertaining to wilderness and fire management. The combination of these elements and the ability to incorporate the best-available data will enable the National Park Service to administer the river in a manner that protects and enhances each of the Outstandingly Remarkable Values while allowing for appropriate levels of use and development.

## Criteria and Considerations

In order to guide future decisions regarding specific actions in the Merced River corridor, the National Park Service will use the management elements as a set of decision-making criteria with which to evaluate projects in terms of visitor use, facility siting and design, and other potential actions (e.g., habitat restoration, maintenance activities). For actions that meet these mandatory criteria, the National Park Service then will apply additional considerations to further evaluate the actions. All proposed actions will be evaluated against these criteria and considerations. Also, existing facilities in the Merced River corridor will be evaluated when major reconstruction is needed, a facility is no longer of use, or a management initiative occurs (such as those based on planning efforts or new information). In addition, the National Park Service will follow the requirements of other regulatory processes, such as the National Environmental Policy Act and the National Historic Preservation Act.

## Criteria

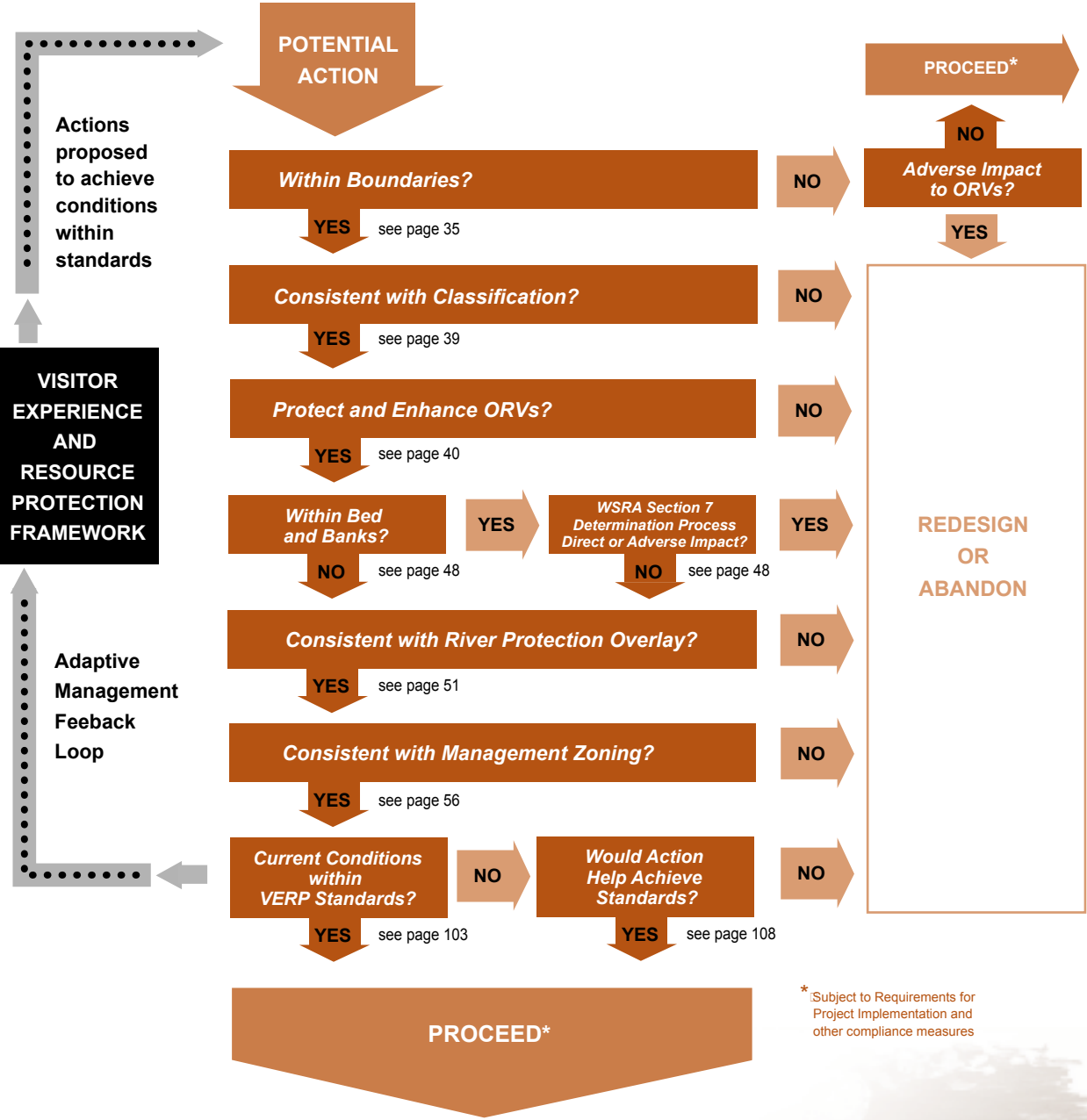
The following criteria, which integrate the management elements of the *Merced River Plan*, must be met:

- Actions within the boundaries of the river corridor must protect and enhance the Outstandingly Remarkable Values.
- Actions must be consistent with the classification of that river segment.
- Actions must protect all Outstandingly Remarkable Values, regardless of where they are located. When Outstandingly Remarkable Values lie within the boundary of the Wild and Scenic River, the value must be protected and enhanced. When values are in conflict with each other, the net effect to Outstandingly Remarkable Values must be beneficial.
- Actions that are considered water resources projects under Section 7 of the Wild and Scenic Rivers Act (i.e., occurring within the bed or banks of the Merced River and affecting free flow) must follow a Section 7 determination process to determine if they have a direct and adverse impact on the values for which the river was designated Wild and Scenic. Proposed actions outside the river corridor in the Merced River tributaries will also undergo Section 7 determinations to determine if they affect the values for which the river was designated Wild and Scenic.
- Actions within the River Protection Overlay must comply with its established conditions.
- Actions must be compatible with the appropriate management zone.
- Actions must be compatible with desired visitor experience and resource conditions under the VERP framework.

## Considerations

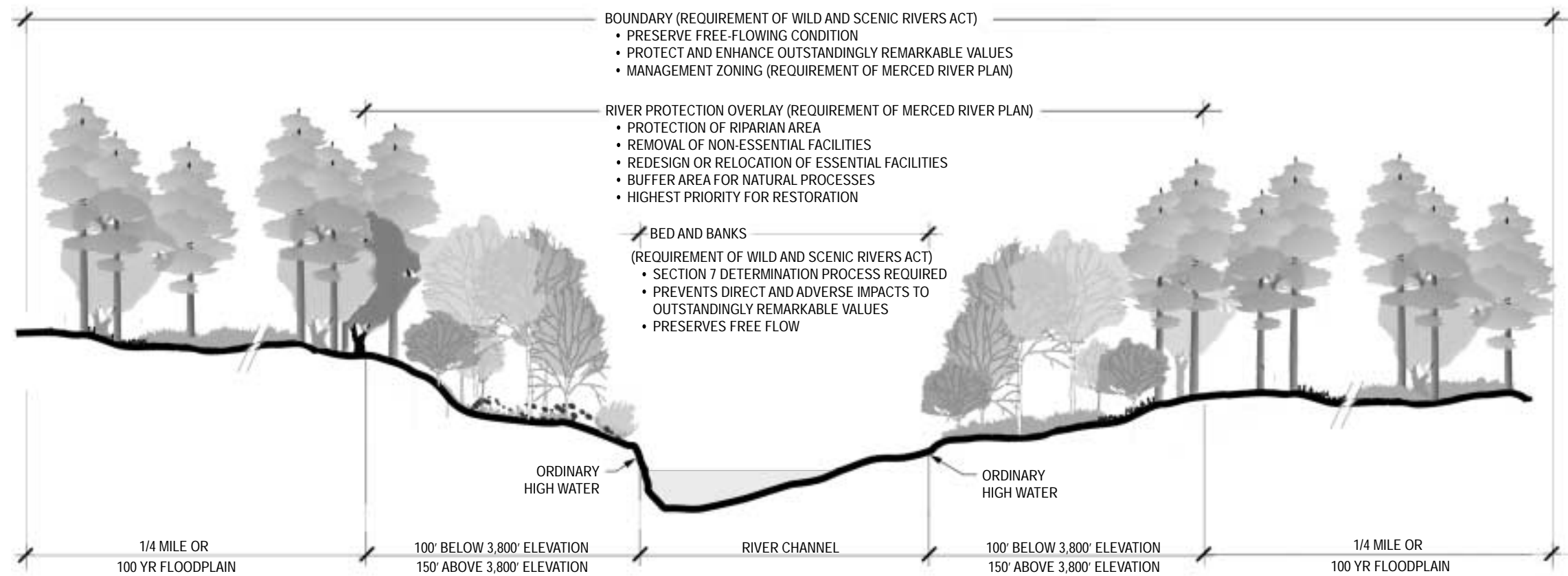
If a proposed action meets the above criteria, the National Park Service will apply additional considerations to (1) minimize an impact by locating facilities outside the river corridor if there is a feasible alternative; (2) designing facilities or actions to minimize or mitigate impacts to the river; and (3) avoiding, minimizing, or otherwise mitigating negative impacts to visitor experience.

The Management Decision-Making Process on page 33 illustrates the general decision-making framework proposed under the *Merced River Plan*. The physical extent to which the management elements and requirements of the Wild and Scenic Rivers Act apply are illustrated in the Merced Wild and Scenic River Cross-Section on the inside fold of page 33. Each management element and its application is further detailed in the following sections.



Management Decision-Making Process

Merced Wild and Scenic River Cross-Section



Merced River Plan Requirements Checklist

The direction offered by the Merced River Plan depends on a project s location. Management protection under the plan becomes more rigorous with proximity to the river. For example, certain management elements (such as the Wild and Scenic Rivers Act Section 7 determination and the River Protection Overlay) are specifically applicable to projects within the bed and banks of the Merced River or the River Protection Overlay, but are not necessarily applicable to projects within or outside the Wild and Scenic River boundaries (not including the area within or outside the River Protection Overlay). The following checklist outlines the requirements of the Merced River Plan for projects occurring in various locations and can be used as a guide to determine which elements of this plan apply to a specific project.

Projects within the **bed and banks** of the Merced River must adhere to the following elements:

- ☐ Wild and Scenic Rivers Act Section 7 determination, if free-flow could be affected
- ☐ Consistent with River Protection Overlay
- ☐ Consistent with management zoning and classifications
- ☐ Protects and enhances the values for which the river was designated Wild and Scenic
- ☐ Consistent with the VERP framework
- ☐ Complies with Requirements for Project Implementation, where applicable (see Appendix B)

Projects within the **River Protection Overlay** (within 100 feet of ordinary high water below 3,800-foot elevation; within 150 feet of ordinary high water above 3,800-foot elevation ) must adhere to the following elements:

- ☐ Consistent with River Protection Overlay
- ☐ Consistent with management zoning and classifications
- ☐ Protects and enhances the values for which the river was designated Wild and Scenic
- ☐ Consistent with the VERP framework
- ☐ Complies with Requirements for Project Implementation, where applicable (see Appendix B)

Projects **within the Wild and Scenic River boundaries** (within the 100-year floodplain in El Portal, and within one-quarter mile of the river for the rest of the corridor) must adhere to the following elements:

- ☐ Consistent with management zoning and classifications
- ☐ Protects and enhances the values for which the river was designated Wild and Scenic
- ☐ Consistent with the VERP framework
- ☐ Complies with Requirements for Project Implementation, where applicable (see Appendix B)

Projects **outside the Wild and Scenic River boundaries** (outside the 100-year floodplain in El Portal, and further than one-quarter mile from the river for the rest of the corridor) must adhere to the following elements:

- ☐ Does not degrade the values for which the river was designated Wild and Scenic
- ☐ Complies with Requirements for Project Implementation, where applicable (see Appendix B)
- ☐ Wild and Scenic Rivers Act Section 7 determination for water resources projects within the bed and banks of tributaries of the Merced River



## Boundaries

Section 3 of the Wild and Scenic Rivers Act calls for the establishment of boundaries within a river corridor to define the area to be protected. The act allows for river corridor boundaries that average no more than 320 acres of land per river mile, measured from the ordinary high water mark on both sides of the river. Boundaries, however, do not limit the protection of Outstandingly Remarkable Values, which must be protected regardless of whether they are inside or outside the corridor boundaries.

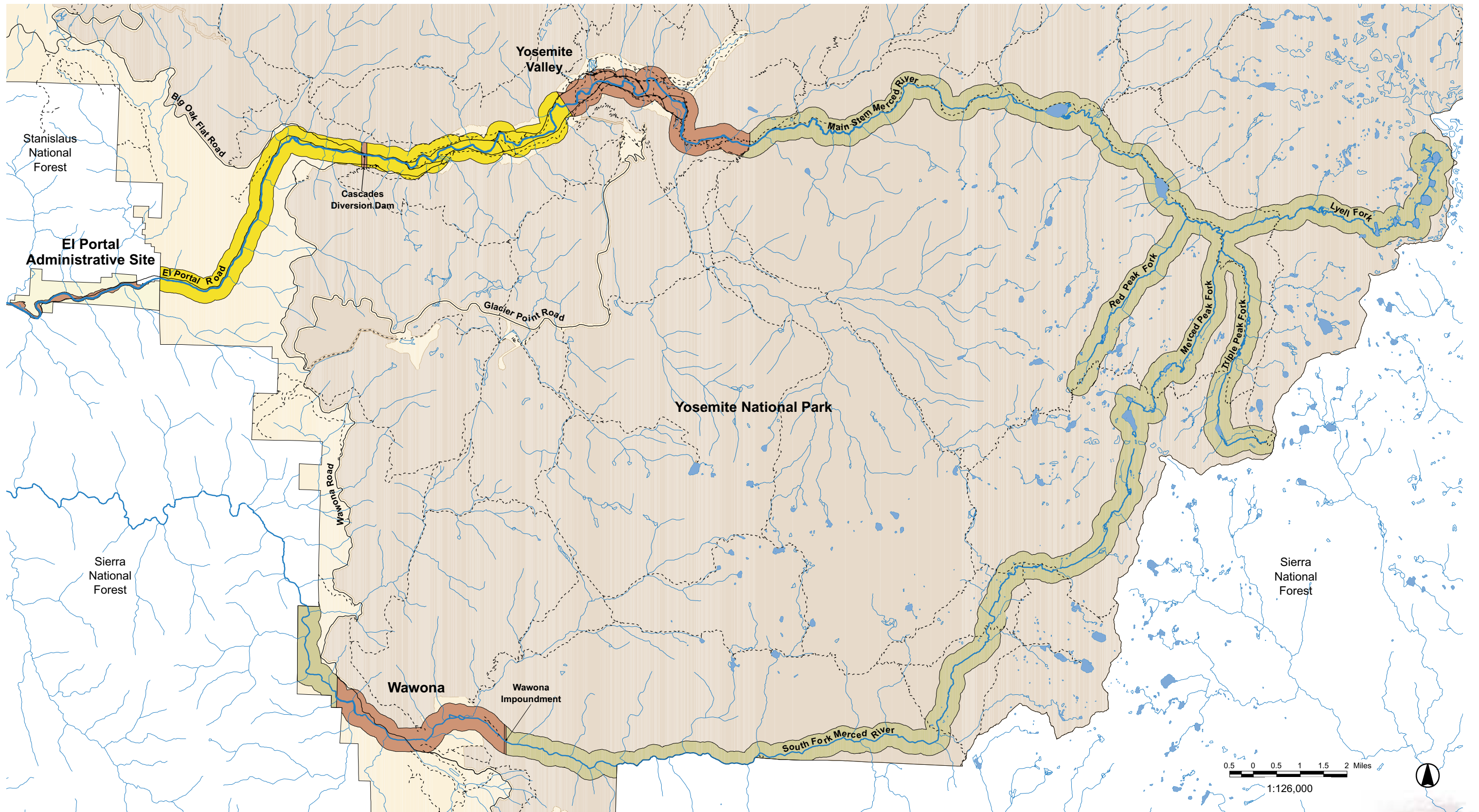


The Merced Wild and Scenic River boundaries are illustrated in figure 1. With the exception of the El Portal Administrative Site, the boundary is defined as one-quarter mile from ordinary high water (as defined by the U.S. Army Corps of Engineers in 33 CFR Section 328.3; see Glossary, Appendix C) for the length of the Merced River within Yosemite National Park. In El Portal, the boundary is defined by the 100-year floodplain or the extent of the River Protection Overlay, whichever is greater, plus adjacent wetlands and meadows.

The river corridor boundaries established in the *Merced River Plan* are based on the existing river channel. Although the river is a dynamic natural system, boundaries depicted in the *Merced River Plan's* maps will not be changed to account for every future fluctuation in the river channel. However, in the interests of allowing natural processes to prevail, the National Park Service will consider changing the delineation of river corridor boundaries if there is a major shift in the river channel. Boundaries may also

be redrawn if significant new information regarding the river channel becomes available and the National Park Service's ability to protect and enhance the Outstandingly Remarkable Values is inhibited. If changes are deemed necessary, an environmental compliance process will be initiated (including future opportunities for public involvement) and the *Merced River Plan* will be amended or updated as appropriate.

For more detail regarding the determination of boundaries, refer to Appendix E of the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*, and the Revised Record of Decision dated November 2000 (see Appendix A).



**Segment Classifications**

<span style="display:inline-block; width:15px; height:15px; background-color: #8ebf8e; border: 1px solid black;"></span> Wild	<span style="display:inline-block; width:15px; height:15px; background-color: #f4d03f; border: 1px solid black;"></span> Non Wilderness
<span style="display:inline-block; width:15px; height:15px; background-color: #f1c40f; border: 1px solid black;"></span> Scenic	<span style="display:inline-block; width:15px; height:15px; background: repeating-linear-gradient(45deg, transparent, transparent 2px, #d9c0b3 2px, #d9c0b3 4px); border: 1px solid black;"></span> Potential Wilderness
<span style="display:inline-block; width:15px; height:15px; background-color: #c0392b; border: 1px solid black;"></span> Recreational	<span style="display:inline-block; width:15px; height:15px; background-color: #d9c0b3; border: 1px solid black;"></span> Wilderness

<span style="display:inline-block; width:15px; border-bottom: 1px solid black;"></span> Roads
<span style="display:inline-block; width:15px; border-bottom: 1px dashed black;"></span> Trails
<span style="display:inline-block; width:15px; border-bottom: 1px solid blue;"></span> Merced River and Forks
<span style="display:inline-block; width:15px; border-bottom: 1px solid lightblue;"></span> Tributaries
<span style="display:inline-block; width:15px; height:15px; background-color: #2980b9; border: 1px solid black;"></span> Lakes

**Figure 1**  
**Boundaries and Classifications**

**TABLE 1**  
**Merced Wild and Scenic River Classifications**

Segment	Location Within Yosemite National Park	Classification
<b>Main Stem</b>		
Wilderness	Headwaters (including the forks of Red Peak, Merced Peak, Triple Peak, and Lyell) to Wilderness boundary above Nevada Fall	Wild
East Valley	Wilderness boundary above Nevada Fall to Sentinel Beach	Recreational
West Valley	Sentinel Beach to top of pool at Cascades Diversion Dam	Scenic
Impoundment	Top of pool at Cascades Diversion Dam to 200 feet below dam	Recreational*
Gorge	200 feet below Cascades Diversion Dam to western park boundary at Parkline	Scenic
El Portal	Parkline to El Portal Administrative Site boundary	Recreational
<b>South Fork</b>		
Wilderness	Headwaters to top of pool at Wawona Impoundment	Wild
Impoundment	Top of pool at Wawona Impoundment to 200 feet below dam	Recreational*
Wawona	200 feet below Wawona Impoundment to Squirrel Creek	Recreational
Below Wawona	Squirrel Creek to western park boundary	Wild
<p>* This plan allows for the removal of the Cascades Diversion Dam and the Wawona Impoundment. If either of these structures were removed, the classifications of the segments would be changed to reflect surrounding classifications (i.e., change from Recreational to Scenic).</p>		



# Classifications

The Wild and Scenic Rivers Act requires that river segments be classified and administered as Wild, Scenic, or Recreational, based on the condition of the river corridor at the time of boundary designation. The classification of a river segment indicates the level of development on the shorelines, the level of development in the watershed, and the degree of accessibility by road or trail. Classifications are defined in the act as follows:

**Wild river areas:** Those rivers or sections of rivers that are free of impoundments and generally inaccessible except by trail, with watersheds or shorelines essentially primitive and waters unpolluted.

**Scenic river areas:** Those rivers or sections of rivers that are free of impoundments, with shorelines or watersheds still largely primitive and shorelines largely undeveloped, but accessible in places by roads.

**Recreational river areas:** Those rivers or sections of rivers that are readily accessible by road or railroad, that may have some development along their shorelines, and that may have undergone some impoundment or diversion in the past.

The river classifications established by the *Merced River Plan* are as follows. Wilderness areas, which account for approximately 51 miles of the Merced Wild and Scenic River within Yosemite National Park, are classified Wild. Areas with moderate development within the corridor (west Valley and gorge) are classified Scenic, accounting for approximately 13 miles of the Merced River within the park. The east Valley, Wawona, the El Portal Administrative Site, and the impoundments are classified as Recreational, reflecting the higher level of development in these areas. Recreational areas account for approximately 17 miles of the Merced River within the park. The Cascades Diversion Dam and the Wawona Impoundment would change to a Scenic classification if and when the impoundments were removed. The classifications for the segments of the Merced River administered by the National Park Service are listed in table 1 and depicted in figure 1.

Appendix E of the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS* contains a history of the determination of classifications.

# Outstandingly Remarkable Values

Before a river can be designated Wild and Scenic, it must meet certain requirements for eligibility. One of the primary bases for determining eligibility is the identification of the river's Outstandingly Remarkable Values. The Wild and Scenic Rivers Act defines these values as those characteristics that make the river worthy of special protection. Outstandingly Remarkable Values can include scenery, recreation, fish and wildlife, geology, history, culture, and other similar values.

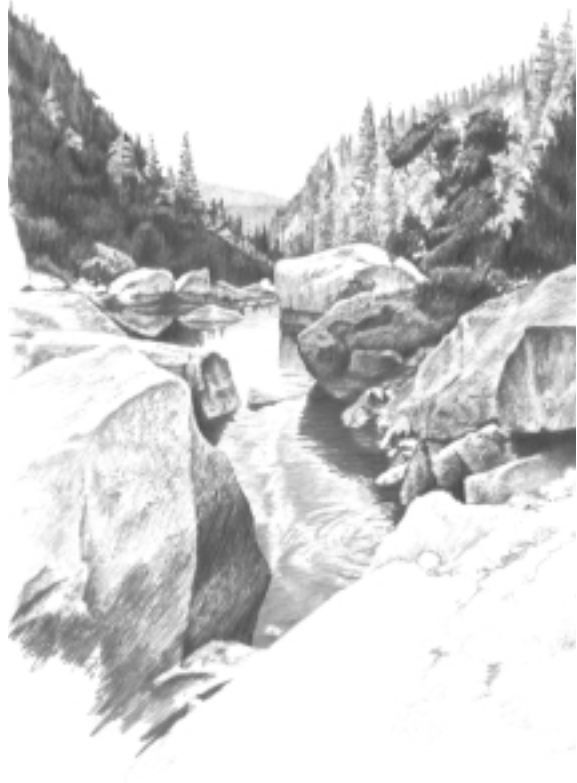
In order to be considered, two vital questions must be answered to establish the criteria for selection of Outstandingly Remarkable Values:

- Is the value river-related or river-dependent?
- Is the value rare, unique, or exemplary in a regional or national context?

In the administration of a Wild and Scenic River, "primary emphasis shall be given to protecting its aesthetic, scenic, historic, archeologic, and scientific features" (16 USC 1281[a]). The *Merced River Plan* includes a set of Outstandingly Remarkable Values for the main stem and South Fork of the Merced River that were refined through the public planning process. Application of the *Merced River Plan's* seven management elements will allow for the protection and enhancement of these Outstandingly Remarkable Values. The following are categories of Outstandingly Remarkable Values used in the *Merced River Plan* (beginning on page 45, table 2 presents the values for each river segment):

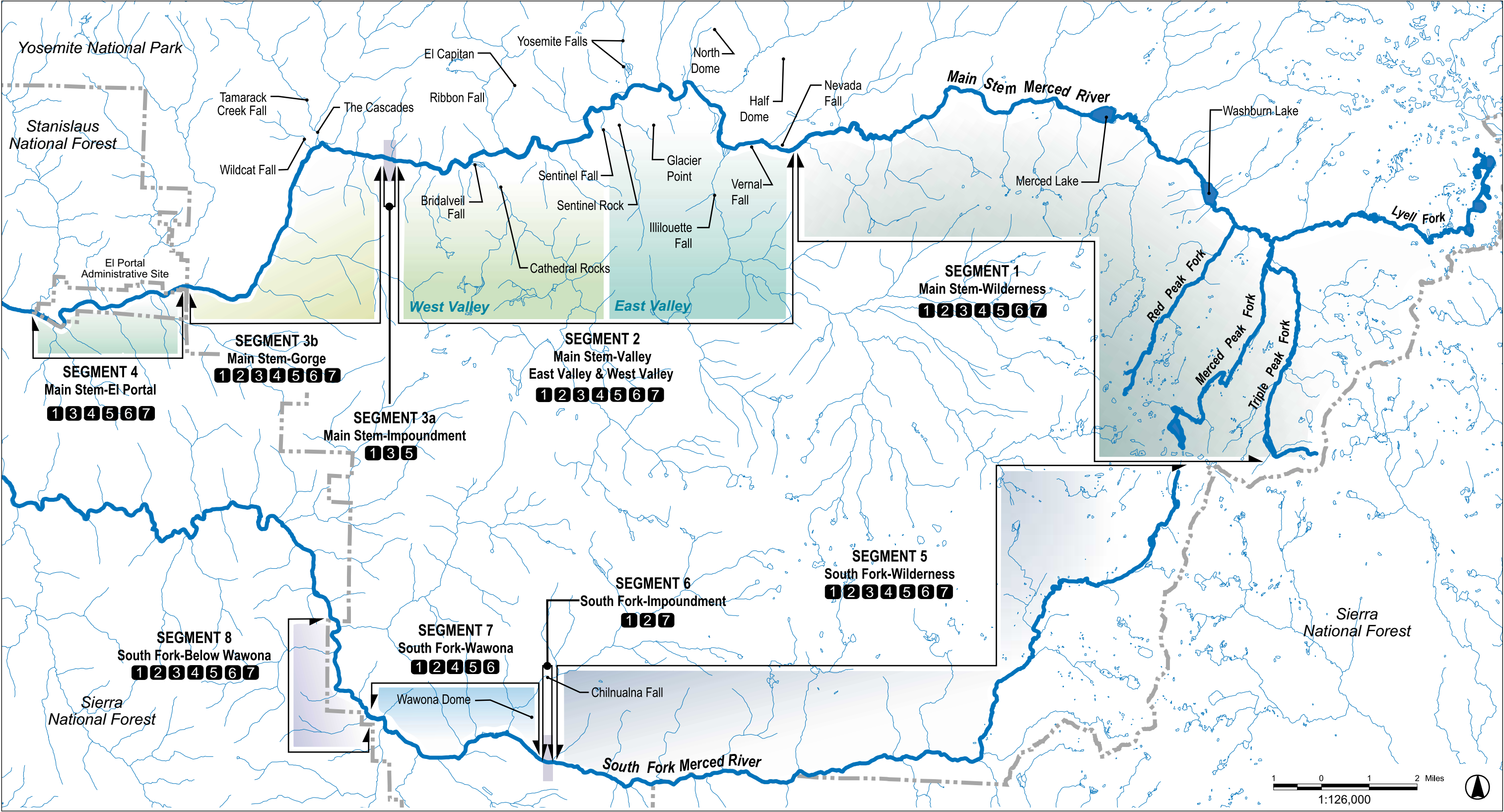
- **Scientific** – Because much of the watershed is largely within designated Wilderness in Yosemite, the Merced River corridor constitutes a rich resource for scientific study. Scientific Outstandingly Remarkable Values relate to the Merced River's value for research.
- **Scenic** – Yosemite National Park is recognized worldwide for its spectacular scenic wonders. Scenic resource Outstandingly Remarkable Values include spectacular views from the river and its banks and include a number of viewpoints that exhibit the sublime character of Yosemite National Park.
- **Geologic Processes/Conditions** – Unique to the Merced River corridor is the dramatic evidence of natural processes at work for thousands of years. Geologic process and geologic condition Outstandingly Remarkable Values are generally related to glaciation, granite domes, river processes, and unique geologic features.

- **Recreation** – The vast spectrum of recreational opportunities throughout the Merced River corridor – from fishing and hiking to enjoying solitude and natural sounds along the river – all contribute to a special Yosemite experience. Outstandingly Remarkable Values have been identified relating to those activities unique to the Merced River.
- **Biological** – From the presence of the Wawona riffle beetle to the diversity of neotropical songbirds, the Merced River is a vital component in determining the overall health of riparian communities. Biological resource Outstandingly Remarkable Values have been identified and include riverine habitats such as riparian forests, meadows, and the aquatic environment of the river and associated special-status species.
- **Cultural** – For thousands of years, Yosemite’s human residents have lived within the Merced River corridor. Evidence of historic and prehistoric lifeways tells the story of the Merced River’s unique heritage. Cultural resource Outstandingly Remarkable Values include river-related cultural resources that are not intended to divert the free flow of the river and that are either eligible for or listed on the National Register of Historic Places.
- **Hydrologic Processes** – A logjam hundreds of years old crosses the river in Little Yosemite Valley. The river meanders through Yosemite Valley, then plunges 2,000 feet in elevation over a course of six miles through the gorge. Such distinct features characterize the value of the Merced River’s unique river processes. Outstandingly Remarkable Values related to hydrologic processes generally include pristine water quality, exceptionally steep gradients, extraordinary examples of cascades, and examples of unique hydrologic conditions (e.g., oxbows, unique wetlands, fluvial processes, and an active flood regime).



Outstandingly Remarkable Values are typically identified in a study prior to the designation of a Wild and Scenic River. However, the Merced River's designation was not preceded by a formal river study. The river's Outstandingly Remarkable Values have undergone several iterations since its designation, and a description of the evolution of Outstandingly Remarkable Values is provided in Appendix E of the *Merced Wild and Scenic River Comprehensive Management Plan/FEIS*. Figure 2 provides a conceptual illustration of the locations of Outstandingly Remarkable Values by segment; table 2 represents a segment-by-segment overview of the Outstandingly Remarkable Values for the main stem and South Fork of the Merced River.





Outstandingly Remarkable Values




- |  |  |                     |                               |
|--|--|---------------------|-------------------------------|
|  River                  | <b>1</b> Scientific                          | <b>4</b> Recreation | <b>6</b> Cultural             |
|  Tributaries            | <b>2</b> Scenic                              | <b>5</b> Biological | <b>7</b> Hydrologic Processes |
|  National Park Boundary | <b>3</b> Geological Processes and Conditions |                     |                               |

Figure 2  
Outstandingly Remarkable Values

**TABLE 2**

**Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)**

Segment Number and Name	Outstandingly Remarkable Values (By Category)
<b>Main Stem Merced</b>	<p><b>Scientific</b> – These segments of the river corridor constitute a highly significant scientific resource because the river watershed is largely within designated Wilderness in Yosemite National Park.</p>
1) Wilderness	<p><b>Scenic</b> – This segment includes views from the river and its banks of the glaciated river canyon, exposed bedrock riverbed, Merced Lake and Washburn Lake, the Bunnell Cascades, the confluence of tributaries, a large concentration of granite domes, and the Clark and Cathedral Ranges.</p> <p><b>Geologic Processes/Conditions</b> – This segment traverses a U-shaped, glacially carved canyon separated by cascades and soda springs below Washburn Lake.</p> <p><b>Recreation</b> – This segment provides outstanding opportunities for solitude along the river, with primitive and unconfined recreation. There is a spectrum of levels of recreational use. River-related recreational opportunities include day hiking, backpacking, horseback riding and packing, camping, and enjoyment of natural river sounds. Untrailed tributaries provide enhanced opportunities for solitude.</p> <p><b>Biological</b> – This segment includes a nearly full range of intact Sierran riverine environments, high-quality riparian, meadow, and aquatic habitats (such as the meadow at Washburn Lake), and special-status species such as mountain yellow-legged frog.</p> <p><b>Cultural</b> – This segment includes portions of a prehistoric trans-Sierra route in use for thousands of years and many prehistoric sites. There are many historic resources such as homestead sites, trails, river crossings, High Sierra Camp sites, and structures.</p> <p><b>Hydrologic Processes</b> – The segment is characterized by a free-flowing river and excellent water quality. The river gradient drops from 13,000 to 6,000 feet in elevation. There are examples of natural conditions, including glacial remnants, a logjam in Little Yosemite Valley that is hundreds of years old, and numerous cascades.</p>
2) Valley	<p><b>Scenic</b> – This segment provides magnificent views from the river and its banks of waterfalls (Nevada, Vernal, Illilouette, Yosemite, Sentinel, Ribbon, Bridalveil, and Silver Strand), rock cliffs (Half Dome, North Dome/Washington Column, Glacier Point, Yosemite Point/Lost Arrow Spire, Sentinel Rock, Three Brothers, Cathedral Rock, and El Capitan), and meadows (Stoneman, Ahwahnee, Cook's, Sentinel, Leidig, El Capitan, and Bridalveil). There is a scenic interface of river, rock, meadow, and forest throughout the segment.</p> <p><b>Geologic Processes/Conditions</b> – This segment contains a classic, glaciated, U-shaped valley, providing important examples of a mature meandering river; hanging valleys such as Yosemite and Bridalveil Creeks; and evidence of glaciation (e.g., moraines below El Capitan and Bridalveil Meadows).</p> <p><b>Recreation</b> – This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and sightseeing to hiking. Yosemite Valley is one of the premier outdoor recreation areas in the world.</p> <p><b>Biological</b> – Riparian areas and low-elevation meadows are the most productive communities in Yosemite Valley. The high quality and large extent of riparian, wetland, and other riverine areas provide rich habitat for a diversity of river-related species, including special-status species, neotropical migrant songbirds, and numerous bat species.</p> <p><b>Cultural</b> – This segment contains evidence of thousands of years of human occupation reflected in a large number of archeological sites and continuing traditional use today. Nationally significant historic resources are found here, such as designed landscapes and developed areas, historic buildings, and circulation systems (trails, roads, and bridges) that provide visitor access to the sublime views of natural features that are culturally valuable.</p> <p><b>Hydrologic Processes</b> – This segment is characterized by a meandering river, world-renowned waterfalls, an active flood regime, oxbows, unique wetlands, and fluvial processes.</p>

**TABLE 2****Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)**

Segment Number and Name	Outstandingly Remarkable Values (By Category)
3a) Impoundment (would become part of Segment 3b, Gorge –classified as Scenic, if Cascades Diversion Dam were removed)	<p><b>Geologic Processes/Conditions</b> – This segment contains the dramatic transition from the U-shaped, glaciated Yosemite Valley to the V-shaped river gorge.</p> <p><b>Biological</b> – This segment contains rich riparian habitat.</p>
3b) Gorge	<p><b>Scenic</b> – This segment provides views from the river and its banks of the Cascades, spectacular rapids among giant boulders, Wildcat Fall, Tamarack Creek Fall, the Rostrum, and Elephant Rock.</p> <p><b>Geologic Processes/Conditions</b> – This segment is characterized by a classic V-shaped river gorge with a continuous steep gradient.</p> <p><b>Recreation</b> – This segment provides a spectrum of river-related recreational opportunities, such as picnicking, fishing, photography, and sightseeing.</p> <p><b>Biological</b> – This segment is characterized by diverse riparian areas and associated special-status species that are largely intact and almost entirely undisturbed by humans.</p> <p><b>Cultural</b> – This segment contains cultural resources, including prehistoric sites and historic sites and structures such as those relating to historic engineering projects.</p> <p><b>Hydrologic Processes</b> – This segment is characterized by exceptionally steep gradients (2,000-foot elevation drop in approximately six miles).</p>
4) El Portal	<p><b>Geologic Processes/Conditions</b> – This segment contains a transition from igneous to metasedimentary rocks (metasedimentary rocks are among the oldest in the Sierra Nevada).</p> <p><b>Recreation</b> – This segment provides a range of river-related recreational opportunities, in particular white-water rafting and kayaking (class III to V) and fishing.</p> <p><b>Biological</b> – This segment contains riverine habitats such as riparian woodlands and associated federal and state special-status species, including Tompkin's sedge and Valley elderberry longhorn beetle and its critical habitat (elderberry shrub). Expanses of north-facing habitat allow unlimited access to the riparian zone for wildlife species.</p> <p><b>Cultural</b> – This segment contains some of the oldest archeological sites in the Yosemite area, as well as many historic Indian villages and traditional gathering places. River-related historic resources include structures related to early tourism and industrial development.</p> <p><b>Hydrologic Processes</b> – This segment is characterized by continuous rapids.</p>
<b>South Fork Merced</b>	<p><b>Scientific</b> – These segments of the river corridor constitute a highly significant scientific resource because the River watershed is largely within designated Wilderness in Yosemite National Park.</p>
5) Wilderness	<p><b>Scenic</b> – This segment provides views from the river and its banks of unique river features, including large pothole pools within slick rock cascades, old growth forest, and meadows.</p> <p><b>Geologic Processes/Conditions</b> – This segment is characterized by glaciated valleys in the high country and V-shaped canyons above Wawona. Moraine meadows and soda springs above Gravelly Ford are also unique, river-related geologic features.</p> <p><b>Recreation</b> – This segment provides outstanding opportunities for river-related solitude, enjoyment of natural river sounds, and primitive and unconfined recreation. This segment of the river is predominantly without trails, with the exception of four bridgeless trail crossings in the upper reaches of the segment.</p>

**TABLE 2****Outstandingly Remarkable Values of the Merced River (Main Stem and South Fork)**

Segment Number and Name	Outstandingly Remarkable Values (By Category)
5) Wilderness (cont.)	<p><b>Biological</b> – This segment includes a nearly full range of riverine environments typical of the Sierra Nevada. Examples of river-related federal and state special-status species include Wawona riffle beetle and mountain yellow-legged frog.</p> <p><b>Cultural</b> – This segment includes river-related prehistoric sites and resources and reflects historic stock use and cavalry activities.</p> <p><b>Hydrologic Processes</b> – This segment is characterized by a free-flowing river and excellent water quality.</p>
6) Impoundment (would become part of segment 7, Wawona, if an alternative water source were secured and impoundment were removed)	<p><b>Scenic</b> – This segment provides views from the river and its banks of the river and Wawona Dome.</p> <p><b>Hydrologic Processes</b> – This segment has excellent water quality.</p>
7) Wawona	<p><b>Scenic</b> – This segment provides views from the river and its banks of Wawona Dome.</p> <p><b>Recreation</b> – This segment offers opportunities to experience a spectrum of river-related recreational activities, from nature study and photography to hiking.</p> <p><b>Biological</b> – This segment contains a diversity of river-related species, wetlands, and riparian habitats. There are federal and state special-status species in this segment, including Wawona riffle beetle.</p> <p><b>Cultural</b> – This segment contains evidence of thousands of years of human occupation, including numerous prehistoric and historic Indian villages, historic sites, structures, and landscape features related to tourism, early Army and National Park Service administration, and homesteading.</p>
8) Below Wawona	<p><b>Scenic</b> – This segment provides views from the river and its banks of continual white-water cascades in the deep and narrow river canyon in a untrailed, undisturbed environment.</p> <p><b>Geologic Processes/Conditions</b> – This segment contains a transition from Paleozoic Era igneous to Cretaceous Period metasedimentary rocks (metasedimentary rocks are among the oldest in the Sierra Nevada).</p> <p><b>Recreation</b> – This segment provides outstanding opportunities for river-related solitude, enjoyment of natural river sounds, and primitive and unconfined recreation in an untrailed, undisturbed environment. River-related recreational opportunities include hiking, fishing, and white-water kayaking.</p> <p><b>Biological</b> – This segment is characterized by diverse riparian areas that are intact and largely undisturbed by humans. River-related federal and state special-status species in this segment include Wawona riffle beetle.</p> <p><b>Cultural</b> – This segment contains archeological sites and historic resources such as trail segments representing early cavalry activity.</p> <p><b>Hydrologic Processes</b> – This segment is characterized by a free-flowing river with continual white-water cascades.</p>



## Section 7 Determination Process

When Congress enacted the Wild and Scenic Rivers Act in 1968, it sought to end decades of damming, dredging, and diversion of some of the nation's most spectacular waterways. However, while the Wild and Scenic Rivers Act does not prohibit development along a river corridor, it does specify guidelines for the determination of appropriate actions within the bed and banks of a Wild and Scenic River. Section 7 of the Wild and Scenic Rivers Act specifies restrictions on hydro and water resources development projects. A key management element for guiding future decisions regarding the Merced River is carried out through a Section 7 determination process. Water resources projects, that is, those that are within the bed or banks of the Merced River and that affect the river's free-flowing condition, are subject to Section 7 of the Wild and Scenic Rivers Act (16 USC 1278). As the designated river manager for the Merced River segments addressed by this *Merced River Plan*, the National Park Service must carry out a Section 7 determination on all proposed water resources projects to ensure they do not directly and adversely impact the values for which the river was designated Wild and Scenic.<sup>1</sup>



Photo by Matt Trask

*Removal of the Cascades Diversion Dam, constructed in 1917 and 1918, is subject to a Section 7 determination process.*

### *WATER RESOURCES PROJECTS*

*Water resources projects include non-Federal Energy Regulatory Commission licensed projects, such as dams, water diversions, fisheries habitat and watershed restoration, bridges and other roadway construction/reconstruction, bank stabilization, channelization, levees, boat ramps, and fishing piers, that occur within the bed and banks of a designated Wild and Scenic River (IWSRCC 1999).*

<sup>1</sup> The description of the Wild and Scenic Rivers Act Section 7 determination process contained in this section is adapted from a technical report by the Interagency Wild and Scenic Rivers Coordinating Council (IWSRCC 1999).

The National Park Service is responsible for making the final determination as to whether a proposed water resources project will have a direct and adverse impact to river values. The agency should coordinate its evaluation process with other agencies that are required to review and comment on the project. Depending on the type and location of the project, such agencies may include the U.S. Fish and Wildlife Service, the Environmental Protection Agency, the U.S. Forest Service, the Bureau of Land Management, and the U.S. Army Corps of Engineers. Review of Wild and Scenic Rivers Act Section 7 projects will also be coordinated with other environmental review processes, such as those required by the National Environmental Policy Act and the National Historic Preservation Act, as appropriate.

In emergency situations (e.g., a broken sewer pipe in or near the river), a Section 7 determination must be carried out as soon as possible after the project is completed. Changes to mitigate impacts from an emergency project will be implemented, when necessary, based on the findings of the Section 7 analysis. The National Park Service will undertake the following steps as part of its Section 7 determination process for nonemergency projects.

1. The National Park Service will describe the purpose and need of the proposed project and its location, duration, magnitude, and relationship to past and future management activities.
2. The National Park Service will analyze the potential impacts of the proposed project on the values for which the river was designated Wild and Scenic. This analysis should follow the guidelines provided by the Wild and Scenic Rivers Act, Section 7 Technical Report of the Interagency Wild and Scenic Rivers Coordinating Council (1999), and other applicable guidance.
3. The National Park Service will define the likely duration of the projected impacts.
4. The National Park Service will assess the effects of the projected impacts on the achievement or timing of achievement of the management goals of the *Merced River Plan* (based on the Wild and Scenic Rivers Act).
5. The National Park Service will use this analysis to make a Wild and Scenic Rivers Act Section 7 determination. This determination will document the effects of the proposed activity, including any direct and adverse effects on the values for which the river was designated and Wild and Scenic.

6. Water resources projects found to have a direct and adverse effect on the values of this designated river will be redesigned and resubmitted for a subsequent Section 7 determination or abandoned. In the event that a project cannot be redesigned to avoid direct and adverse effects on the values for which the river was designated, the National Park Service will either abandon the project or advise the Secretary of the Interior in writing and report to Congress in writing in accordance with Section 7(a) of the act.
7. The National Park Service will also follow Wild and Scenic Rivers Act Section 7 procedures to determine if projects above or below the designated river or on its tributary streams would invade the area or unreasonably diminish the scenic, recreational, and fish and wildlife values present in the designated corridor.

# River Protection Overlay

The areas immediately adjacent to the river channel, along with the river channel itself, are particularly important to the health and proper functioning of the river ecosystem. These areas allow for the main channel to link with backwater areas, tributaries, and groundwater systems; provide for increased channel diversity; and contribute sources of needed nutrients and woody debris to the river. In most circumstances, trees or other large woody debris falling into the river are recognized as part of the natural processes and will be left in the river to aid in the recovery of aquatic and riparian habitat. Additionally, the areas immediately adjacent to the river channel can help protect surrounding development from potential flood damage and can be used to filter runoff water draining into the river.

To ensure that the river channel itself and the areas immediately adjacent to the river are protected, the *Merced River Plan* includes a management tool called the River Protection Overlay. It is intended as a primary mechanism to achieve the goals of the *Merced River Plan*. The River Protection Overlay is also intended to identify the location of highest priority for restoration of hydrologic processes and biotic habitats within the river corridor. This critical zone would provide a buffer area for natural flood flows, channel formation, riparian vegetation, and wildlife habitat and would protect riverbanks from human-caused impacts and associated erosion. The River Protection Overlay is intended to apply the requirements of the Wild and Scenic Rivers Act,

## RIVER PROTECTION OVERLAY

*National Park Service staff developed the technical framework for the River Protection Overlay in a series of internal workshops beginning in 1993 and continuing into 1999. Staff reviewed technical studies by various agencies, including the U.S. Forest Service and the U.S. Fish and Wildlife Service. Many of these studies confirmed the importance of ensuring the contribution of inputs to the river from upland vegetation as a guide for setting the width of riparian protection areas. See, for example, Murphy and Meehan 1997; U.S. Forest Service 1990; Klein, Sonnevil, and Short 1987; Elser 1968; and Bilby and Likens 1980.*



Photo by N. Baggett

*Fallen trees and other woody debris are important to the health of the riparian corridor.*



including the protection and enhancement of the Outstandingly Remarkable Values and the preservation of the free-flowing condition of the river, at a higher standard than that of the underlying management zones. However, the River Protection Overlay does not apply to private property within the river corridor.

Rivers are dynamic systems. As the movement of the river channel shifts over time, so would the specific areas included within the River Protection Overlay. Regardless of the location of the water's edge on any given day throughout the year, the River Protection Overlay is measured from the ordinary high water mark, as defined by the Army Corps of Engineers in 33 CFR Section 328.3 (see Glossary, Appendix C).

The width of the River Protection Overlay is determined by site topography and vegetation and includes the area needed to encompass riparian and adjacent upland vegetation and habitat. In areas above 3,800 feet, the River Protection Overlay includes the river channel itself and extends 150 feet on both sides of the river measured from the ordinary high water mark; and in areas below 3,800 feet includes 100 feet on both sides of the river measured from the ordinary high water mark. (On the main stem of the Merced River, the 3,800-foot elevation point occurs near the Cascades Powerhouse. On the South Fork, the 3,800-foot elevation point occurs approximately one mile downstream of Squirrel Creek.) Generally, a wider band is required along the river in the flatter, open valleys, while a narrower buffer provides adequate protection in the steeper, V-shaped river gorges of the lower elevations (see figure 3). This transition occurs approximately at the 3,800-foot elevation mark, in the gorge area below Yosemite Valley on the main stem of the Merced River, and downstream of Wawona on the South Fork. Approximately 70 miles of the river has a 150-foot River Protection Overlay, including Yosemite Valley and Wawona. Approximately 11 miles of the river has a 100-foot River Protection Overlay, including the El Portal Administrative Site.

Projects occurring within the bed or banks of the river and that affect the free-flowing condition of the river are considered water resources projects under the Wild and Scenic Rivers Act and must also go through a Section 7 determination process.

Within the River Protection Overlay, future actions shall be consistent with the following conditions:

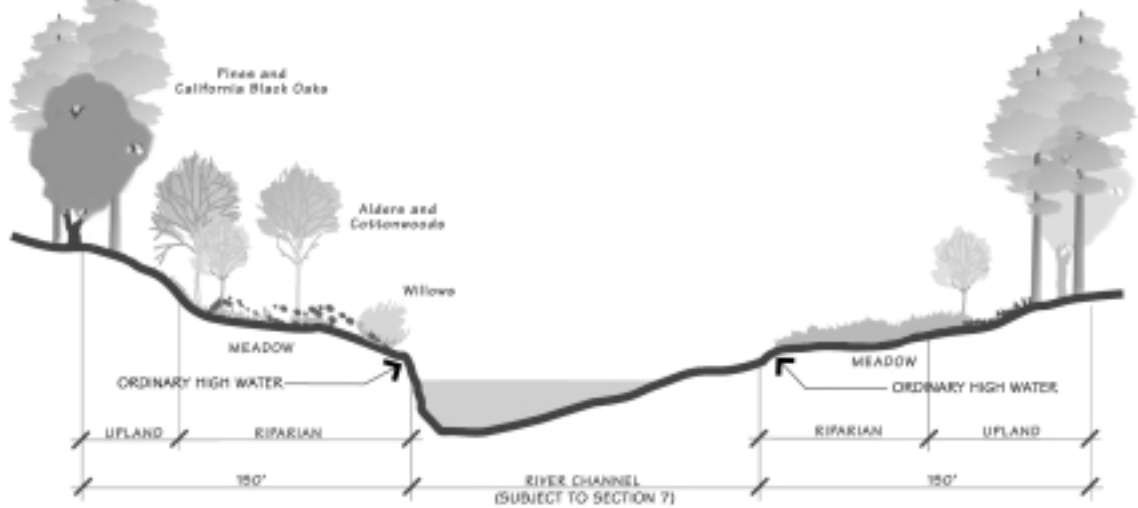
1. Nonessential facilities (including, but not limited to, riprap, levees, diversion walls, impoundments, bridges, bridge abutments, roads, campsites, buildings, utilities, and other structures) should not be located in the River Protection Overlay, except when they meet the following two criteria: (1) where required for access to or across the river, for health and safety, or for the maintenance of historic properties; and (2) where it is impractical to locate them outside the River Protection Overlay.
  - Existing facilities meeting these criteria may remain, and they may be replaced, repaired, or relocated within the River Protection Overlay, but only if the replacement, repair, or relocation does not directly and adversely affect the Outstandingly Remarkable Values.
  - New facilities and development may be constructed in the River Protection Overlay only when meeting these criteria and when located where they do not materially impair the natural function of the river, impede linkages to tributary inflow and backwater areas, or disrupt contribution of woody debris to the river, and where they do not have a direct and adverse impact on the Outstandingly Remarkable Values.
2. Actions within the bed and banks of the river to construct, replace, repair, or relocate essential facilities (i.e., primary roads and bridges, wastewater collection and treatment, domestic water supply, electrical distribution, and similar facilities required to keep the park operating) and facilities that directly protect and enhance the Outstandingly Remarkable Values (e.g., raft launch facilities to preserve the spectrum of recreational experiences and to concentrate use in a hardened area) may be permitted provided that:
  - Project design minimizes impacts to the free-flowing condition of the river, interference with linkages to tributary inflow and backwater areas, and disruption of contribution of woody debris to the river.
  - The project incorporates mitigation measures to avoid or reduce impacts.
3. Facilities and development covered by paragraphs 1 or 2, above, that occur within the bed or banks of the river and that affect the free-flowing condition of the river must also comply with Section 7 of the Wild and Scenic Rivers Act.

4. Other existing facilities that are not addressed by paragraphs 1 or 2 should be removed, and must be removed at the earliest practicable opportunity when major rehabilitation is needed or when a facility is no longer of use.

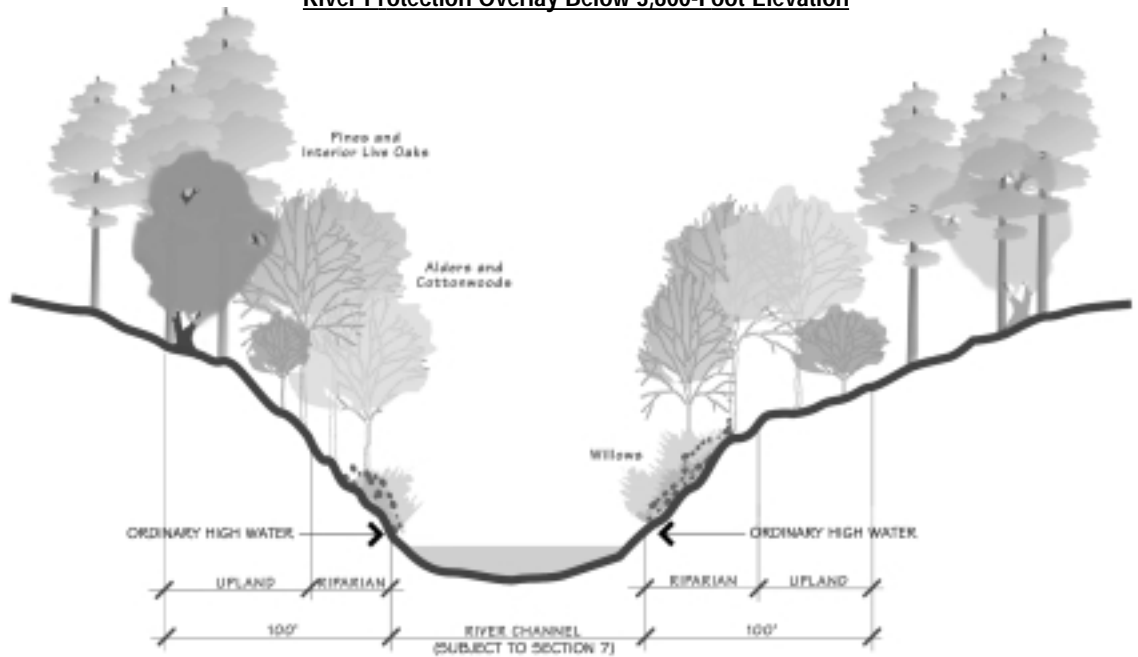
Facilities proposed in the River Protection Overlay must meet the stringent requirements of its prescriptions. However, existing facilities in the River Protection Overlay are allowed to remain even if they do not conform with prescriptions. The National Park Service may address an existing, nonconforming facility in the River Protection Overlay at any time, such as through a planning effort.



River Protection Overlay Above 3,800-Foot Elevation



River Protection Overlay Below 3,800-Foot Elevation



**Figure 3**  
**River Protection Overlay Cross-Sections**

# Management Zoning

Management zoning is a technique used by the National Park Service to classify park areas and prescribe future desired resource conditions, visitor activities, and facilities. Similar to zoning found in other types of land-use planning (such as municipal zoning), management zoning prescribes future desired conditions for a particular area. A management zone is defined in the National Park Service's Visitor Experience and Resource Protection (VERP) framework as:

*A geographical area for which management directions or prescriptions have been developed to determine what can and cannot occur in terms of resource management, visitor use, access, facilities or development, and park operations. Each zone has a unique combination of resource and social conditions, and a consistent management prescription. Different actions will be taken by the National Park Service in different zones with regard to the type and levels of use and facilities (NPS 1997a).*

The management zoning adopted by this plan was developed to protect and enhance the Outstandingly Remarkable Values within each segment of the river. Specifically, the *Merced River Plan* places an emphasis on integrating protection and enhancement of natural and cultural resource Outstandingly Remarkable Values with the protection and enhancement of the diverse recreation Outstandingly Remarkable Values within the river corridor. Management zoning prescribes certain uses and facilities that are not allowed in an area. Before such zoning existed, additional development and higher-intensity uses by park visitors could have resulted in impacts to Outstandingly Remarkable Values over the long term. Management zoning also provides opportunities for restoration of Outstandingly Remarkable Values in areas where lower use and facility levels are prescribed.

In order to protect the spectrum of recreational opportunities (an Outstandingly Remarkable Value), management zoning allows for visitor access and use of facilities in more resilient locations, as well as different intensities of use along the corridor. As part of the Visitor Experience and Resource Protection framework, it also facilitates the development of user capacity analysis. Zoning is consistent with National Park Service



requirements and with the provisions of the Wild Scenic Rivers Act, which states, “Management plans for any such component may establish varying degrees of intensity for its protection and development, based on the special attributes of the area.”

The various management zones are represented schematically on the management zoning maps. Application of the management zones may require additional mapping and site-specific studies for future activities, such as area plans and restoration projects. However, management zoning does not apply to private property that exists within the river corridor.

## Management Zoning Categories

The management zones for the Merced River corridor fall into three general categories: (1) Wilderness zones, (2) Diverse Visitor Experience zones, and (3) Developed zones. Within each of these three categories, there are individual management zones that provide for certain levels and types of visitor experiences, resource conditions, facilities, and uses. Existing uses or facilities that are not compatible with the management prescriptions of their zones could be (but are not required to be) removed, relocated, or modified over time. Management zones generally allow for the repair, maintenance, and reconstruction of established facilities (such as structures, utilities, roads, and bridges) unless specifically noted. The National Park Service may address an existing, nonconforming facility in the corridor at any time, such as through a planning effort. New facilities proposed in the river corridor must meet the stringent requirements of the management zone prescriptions. All management zones permit scientific research and monitoring activities, particularly related to the analysis of visitor experience and resource protection of the river corridor.

The management zones are organized along a continuum of allowed impact intensity. Category 1 zones (Wilderness) generally prescribe the least amount and intensity of visitor use and facility development, leaving the landscape mostly natural and protecting the values reflected in the wilderness segment Outstandingly Remarkable Values. Category 2 zones (Diverse Visitor Experience) allow for a low to high range of visitor use and low to moderate range of facility development. While emphasizing protection and enhancement of natural and cultural resource-related Outstandingly Remarkable Values, they provide the diverse recreational opportunities also identified as

Outstandingly Remarkable Values. Category 3 zones (Developed) occur in limited areas in with Scenic and Recreational segments. These zones allow for the most intensive visitor use and/or more developed facilities. The developed areas encourage concentration of higher-impact activities in areas better able to withstand heavy use and at locations that are already developed, enabling better protection of Outstandingly Remarkable Values in other areas. Within each broad zoning category, the level of intensity that is allowed generally increases as the specific zones progress, and each degree of intensity is assigned a letter (e.g., 2A to 2B to 2C). There are certain exceptions to this hierarchy. For example, the Attraction zone (2D) may envision higher use levels than the Camping zone (3A).

## Relationship to River Protection Overlay

When considering management decisions for specific projects, the National Park Service may find that the management zoning prescription and the River Protection Overlay provide conflicting guidance. Where the management zoning prescription and the River Protection Overlay are in conflict, the prescription that provides the greater protection and enhancement of the Outstandingly Remarkable Values takes precedence.

## Application of Management Zoning

Zoning prescriptions list typical activities, allowed facilities, and examples of facilities not allowed in each zone. These lists provide representative examples of allowed activities and facilities, and are not considered to be exhaustive. In general, the more intensive facilities allowed for in higher category zones would not be allowed in the lower category zones. For example, administrative offices are allowed in Category 3 zones, but not in Category 1 or 2 zones. When determining whether a specific use or facility is appropriate to a management zone, park managers should consider the general character of development and desired resource and visitor experience conditions described for that zone.

Each zone prescribes the maximum level of activities and facilities. In practice, lower levels of visitor use and facilities may be provided than are allowed for in the zoning

prescriptions. Typical uses in lower-intensity zones are generally acceptable uses for higher-intensity zones. For example, areas zoned for overnight lodging may be used for less-developed activities such as walk-in camping or could include protected natural areas. These decisions would be based on site-specific conditions as assessed through the standard planning process. In addition, the management zones, delineated on the zoning maps allow future managers to direct development within the management zone. Within a given management zone, there may be some areas used for higher-intensity facilities or activities, while other areas within the same management zone are left natural and open. Management zoning provides overall guidance for decision-making over the long term. Zoning does not attempt to predict or prescribe every conceivable use or facility decision. Small, isolated “spot” zones were not utilized to distinguish particular facilities or use areas.

Uses or activities allowed in a management zone may be subject to limitations over time. If ongoing monitoring (as implemented through the VERP framework) indicates that impacts on the resource or visitor experience are no longer at an acceptable level, previously designated areas may be further restricted. Management zoning prescriptions can also be temporarily superceded by contingencies, such as the need to respond to emergencies. For example, trails, roads, and facilities may be temporarily closed due to fire, rockfall, or flood.

An area may be designated with two management zones; there are two instances in which multiple zoning is used. The first is where a site may be used for multiple, compatible purposes. Such multiple-use zones are identified with a slash (e.g., 3A/3C). For example, the Yellow Pine Campground in Yosemite Valley is zoned 3A/3C for Camping and Park Operations. This area is currently used as a camping area for park volunteers (an administrative use) and could, in the future, be used as a combination of volunteer and visitor camping or solely as visitor camping.

The second case is where a zoning designation may change in the future depending on specific management actions. Potential conversion zones are indicated with the potential future zone set off in parentheses. For example, the Arch Rock Entrance Station is zoned 3C(2C) for Park Operations/Administration or Day Use. This area is currently used for park operations, but if the entrance station were relocated in the future, the area would convert to Day Use, which would allow for various visitor activities such as picnicking.

The management zones of the *Merced River Plan* are consistent with the purposes of Yosemite National Park, the Wild and Scenic Rivers Act, and the Wilderness Act. Additionally, the management zoning established by this plan is largely consistent with the *General Management Plan*. The zones outlined in the *General Management Plan* include: (1) Natural (wilderness, environmental protection, outstanding natural feature, and natural environment); (2) Cultural (historical, archeological); (3) Development; and (4) Special Use (reservoir). The areas zoned as Natural in the *General Management Plan* are consistently zoned as Wilderness zones in the *Merced River Plan*. The *General Management Plan* consistently designates the Merced River and riparian areas as an “Outstanding Natural Feature” zone, which accords with the *Merced River Plan’s* special protection for the corridor through the River Protection Overlay. The *General Management Plan* designates camping, lodging, and more intensive visitor use areas as “Development” zones, in keeping with the Developed zones in the *Merced River Plan*.

However, the management zoning established by the *Merced River Plan*, in some cases, constitutes a revision to the *General Management Plan* zoning for areas within the river corridor. In the eastern portion of Yosemite Valley, the *General Management Plan* designates certain areas as Development zones (such as Housekeeping Camp, Upper and Lower River Campgrounds, and North Pines Campground), while in the *Merced River Plan* these areas are designated for greater resource protection. In all other areas, the management zoning adopted by this plan complements the broad zoning established by the *General Management Plan* by adding further specificity.

## Category 1: Wilderness Zones

Approximately 34 miles of the main stem and 19 miles of the South Fork of the Merced Wild and Scenic River corridors flow through designated Wilderness and are managed under the guidance and requirements of the 1964 Wilderness Act and the California Wilderness Act of 1984. As such, these segments will continue to be managed to preserve an environment in which the natural world, along with the processes and events that shape it, are largely unchanged by human use, and to allow for various forms of exploration in an environment primarily free of modification. Access limits are imposed to control human-induced change, and management actions such as education, regulation, and restoration will occur as appropriate to protect natural and cultural resources and designated Outstandingly Remarkable Values. Visitor use and

enjoyment is encouraged as long as such use does not result in levels of human impact that compromise wilderness and river values. Visitors will encounter a variety of opportunities for solitude, primitive and unconfined recreation, and physical challenge. Presence of park staff will be limited, focused on locations of heavy use such as camping areas.

The Wilderness zones will be managed to protect the natural hydrologic and ecologic processes of the Merced River and its immediate environment. Other than trails and designated overnight areas, the Wilderness zones will exhibit natural conditions, with high-quality riparian, meadow, and aquatic habitats. There will be high native plant and animal species diversity and relatively minimal disturbance and human impact. The Merced River will remain free of impoundments, and natural processes, such as deposits of woody debris into the river, will occur without human interference. Water quality in the area will be very high.

The Wilderness zones emphasize the protection of natural resource Outstandingly Remarkable Values, such as biological, geologic, and hydrologic values. By limiting use and development, the Wilderness zones also protect and enhance cultural, scenic, and recreational Outstandingly Remarkable Values, which identify spectacular views, prehistoric sites, and opportunities for solitude and primitive recreation among the important values of the wilderness segments of the Merced River corridor.

The National Park Service manages the designated Wilderness under the direction of the Wilderness Act of 1964. The Wilderness Act provides a high level of resource protection for those river segments within Wilderness areas, generally a comparable or more restrictive level than the Wild and Scenic Rivers Act. In all cases where the Wild and Scenic Rivers Act and the Wilderness Act are in conflict, the more restrictive provision will apply (see Wild and Scenic Rivers Act, 16 USC 1281[b]).

There are four Wilderness zones:

- Zone 1A: Untrailed
- Zone 1B: Trailed Travel
- Zone 1C: Heavy Use Trail
- Zone 1D: Designated Overnight



## Wilderness Zone Management Objectives

The overall management objectives for the Wilderness zones, which are consistent with the *Wilderness Management Plan* (NPS 1989), are as follows:

- Manage for protection of Outstandingly Remarkable Values, with an emphasis on protection and enhancement of natural resource Outstandingly Remarkable Values
- Manage for ecosystem integrity
- Preserve natural biodiversity
- Allow natural processes to prevail
- Mitigate, reduce, or eliminate human-caused impacts
- Manage for a high-quality wilderness visitor experience
- Protect all wilderness values (ecological, geological, scientific, educational, scenic, or historical in nature)
- Apply the “minimum requirement” guidance concept in all administrative operational functions in accordance with the Wilderness Act
- Manage for the preservation of cultural resources

### Zone 1A. Untrailed

The Untrailed zone is primarily free of signs of modern human presence, with extremely high opportunity for solitude due to the remoteness of the area and lack of trails. Management activities in this zone will be minimal, allowing resources and natural processes to exist in their most pristine state. The Untrailed zone will be managed with very low tolerance for resource degradation from visitor use, and management action can be taken to change visitor use patterns if such degradation occurs.

Visitor experience is primarily based on hiking through often difficult terrain. There are no formal trails or directional markers in this zone. There are few, if any, human encounters, and wilderness skills and knowledge are necessary to safely navigate these areas. Natural and cultural resources can be observed, but there are no formal interpretation or visitor accommodations. This area will provide substantial opportunities for scientific study of natural processes in undisturbed conditions.

The difficulty of access characterized by the Untrailed zone serves to limit visitor use, thereby protecting and enhancing biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. Opportunities for solitude, primitive and unconfined recreation, and enjoyment of natural river sounds are among the recreational Outstandingly Remarkable Values prominent in this zone.

**Activities** – The following activities will be typical in this zone:

- Overnight camping 100 feet or more from a water body, by permit
- Hiking
- Rock climbing and mountaineering
- Swimming and wading
- Fishing<sup>2</sup>
- Photography and nature study

**Facilities** – The following facilities are allowed in this zone:

- Limited numbers of legal and appropriately dispersed campsites

The following are examples of facilities that are **not** allowed in this zone:

- Support facilities such as food storage, ranger stations, and compost toilets
- Utilities
- Bridges
- Formal trails
- Interpretive signs or programs
- Commercial overnight facilities

## **Zone 1B. Trailed Travel**

The Trailed Travel zone is characterized by light to moderate use focused on marked and maintained trails. Opportunities for solitude will range from moderate to high. There will be some management presence to accommodate resource protection and visitor use. The Trailed Travel zone will be managed with very low tolerance for resource degradation from visitor use, and management action can be taken to change visitor use patterns if such degradation occurred.

Most visitors will experience this area by hiking, although a small percentage of visitors traditionally use pack animals and can continue to do so. Visitor encounters will be infrequent, except in areas common for campsites and at key trail junctions. While there

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<sup>2</sup> Fishing is allowed subject to California Department of Fish and Game regulations in all management zones.

will be opportunities for challenge and adventure, the well-marked and maintained trails will allow visitors with a diversity of hiking abilities to experience the wilderness.

Through limitations on development and access, the Trailed Travel zone will protect and enhance biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. Opportunities for solitude, primitive and unconfined recreation, and enjoyment of natural river sounds are among the recreational Outstandingly Remarkable Values prominent in this zone.

**Activities** – The following activities will be typical in this zone:

- Overnight camping 100 feet or more from a water body or trail, by permit
- Hiking
- Rock climbing and mountaineering
- Stock use as allowed in the *Wilderness Management Plan*
- Swimming and wading
- Fishing
- Photography and nature study
- Very limited interpretive programs (e.g., guided walks for small groups)

**Facilities** – The following facilities are allowed in this zone:

- Marked and maintained trails (walls and water bars could be used to provide for protection of resources)
- Limited numbers of legal and appropriately dispersed campsites
- Historic features
- Occasional directional and regulatory signs, and safety signs only as necessary
- Footbridges only at trail crossings where necessary for resource protection and visitor access (in compliance with the *Wilderness Management Plan*)

The following are examples of facilities that are **not** allowed in this zone:

- Large campsites with facilities
- Commercial overnight facilities
- Utilities

## Zone 1C. Heavy Use Trail

The Heavy Use Trail zone is characterized by high levels of use on marked and maintained trails and associated areas. Due to high use levels, opportunities for solitude at peak times will be more limited on trails in this area. In some locations, sections of paved or rocked trails and fencing can be used to direct visitor use away from sensitive ecosystems. The Heavy Use Trail zone will be managed with a low tolerance for resource degradation due to visitor use, and management action can be taken to redirect use if such degradation occurred.

Most visitors will experience this area by hiking, although a small percentage of visitors traditionally use pack animals and can continue to do so. Encounters with other visitors can be frequent during certain periods of the day or at key trail junctions, vistas, and other high use locations. The well-marked and maintained trails will allow for visitors with a diversity of hiking abilities to experience the wilderness.

Through limitations on development, the Heavy Use Trail zone will protect and enhance biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values. While opportunities for solitude will be lower than in the less-traveled Untrailed and Trailed Travel zones, this zone will provide ready access to wilderness hiking and backpacking near the Merced River.

**Activities** – The following activities will be typical in this zone:

- Hiking
- Rock climbing and mountaineering
- Stock use as allowed in the *Wilderness Management Plan*
- Photography and nature study
- Swimming and wading
- Fishing
- Very limited interpretive programs (e.g., guided walks for small groups)

**Facilities** – The following facilities are allowed in this zone:

- Marked and maintained trails (Some trails could have remnant paving, soil amendments, or hardened surfaces. Stairs, walls, fencing, and other trail features may be constructed for visitor use management and protection of sensitive areas.)
- Directional, regulatory, and safety signs

- Footbridges only at trail crossings where necessary for resource protection and visitor access (in compliance with the *Wilderness Management Plan*)

The following are examples of facilities that are **not** allowed in this zone:

- Campsites
- Commercial overnight facilities

## Zone 1D. Designated Overnight

The Designated Overnight zone is characterized by the heaviest overnight use of all areas of the Wilderness zones. Designated overnight areas will be centered at destination locations with facilities for resource protection and visitor use, specifically at the Little Yosemite Valley Campground, Moraine Dome Campground, Merced Lake Campground, and the Merced Lake High Sierra Camp (a potential Wilderness addition). Opportunities for solitude will range from low to moderate, depending on the season. Social interaction will be common. Presence of National Park Service staff will be moderate to high in order to prevent or mitigate most adverse impacts. The Designated Overnight zone will be managed with a low tolerance for resource degradation due to visitor use. Facilities such as signs and fencing can be used to prevent unacceptable impacts. Campsites will be located away from any sensitive natural or cultural areas, including meadows, streams, lakes, and historic and archeological sites, to minimize impacts.

Most visitors will experience this area by hiking and/or staying overnight. Small percentages use pack animals and can continue to do so. Visitor encounters with others will be frequent during much of the hiking seasons. The well-marked trails and facilities will allow for a diversity of users to experience the wilderness.

The Designated Overnight zone concentrates visitor facilities in a localized area, allowing for higher protection and enhancement of biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values outside this zone. This zone also ensures that historic structures such as the High Sierra Camp can remain for continued use or for interpretive purposes. Signs, fencing, and other features can be used to direct visitors away from sensitive biological and cultural Outstandingly Remarkable Values, as necessary.



**Activities** – The following activities will be typical in this zone:

- Overnight camping only within a campground setting, by permit
- Hiking
- Wilderness skiing
- Photography and nature study
- Very limited interpretive programs (e.g., occasional ranger talks, guided walks)
- Stock use as allowed in the *Wilderness Management Plan*
- Use of High Sierra Camps as allowed in the *Wilderness Management Plan*

**Facilities** – The following facilities are allowed in this zone:

- High Sierra Camps as allowed in the *Wilderness Management Plan*
- Designated campsites of moderate size
- Food storage and campfires, subject to regulation
- Compost toilets and toilet enclosures (as necessary to protect resources)
- Structures such as the Little Yosemite Valley Campground and Ranger Station, Merced Lake Campground, and Merced Lake High Sierra Camp (to concentrate use and reduce or mitigate ecosystem degradation, or for interpretation as a cultural resource)<sup>3</sup>
- Marked and maintained trails (Some trails could have remnant paving, soil amendments, or hardened surfaces. Stairs, walls, fencing, and other trail features could be constructed for visitor use management and protection of sensitive areas.)
- Directional, safety, informational, and regulatory signs, and minimal interpretive signs when required for protection of resources
- Utilities associated with above facilities

The following are examples of facilities that are **not** allowed in this zone:

- New commercial overnight facilities
- Campsites outside of designated areas

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<sup>3</sup> As provided for in the California Wilderness Act of 1984, if overnight use of the Merced Lake High Sierra Camp were restricted through a future, more detailed level of planning (e.g., update to the *Wilderness Management Plan*), the designation would change from potential Wilderness addition to designated Wilderness.

## Category 2: Diverse Visitor Experience Zones

The Merced River corridor serves as an important recreational resource, providing opportunities for nature study, hiking, picnicking, swimming, fishing, and other activities for many of the nearly 4 million people who visit Yosemite National Park each year. The Merced River corridor also serves as a continuous visual element of the landscape, setting off significant features such as waterfalls, granite domes, and peaks.

Natural resource management in these zones will strive to protect and enhance the natural functioning of ecological and hydrological systems while accommodating moderate levels of visitor use. The Category 2 zones are designed to protect and enhance biological, hydrologic, geologic, scenic, cultural, and scientific Outstandingly Remarkable Values, as well as the recreational Outstandingly Remarkable Values. This will be achieved by maintaining, wherever possible, the integrity of an overall ecological unit (such as a meadow, woodland, or wetland), while allowing for some human alteration of the landscape. Riparian, aquatic, and meadow communities in the river corridor play a particularly critical role in a variety of ecosystem processes and also contribute to the cultural landscape. Restoration of the ecological and hydrological systems in these areas will focus on enhancing the diversity and stability of natural functions. Resource degradation will be minimized by the careful design and siting of facilities that direct visitor and administrative activities to locations able to withstand heavy use. Monitoring of visitor impacts on natural and cultural resources will help ensure adaptive and timely management responses to potential resource degradation.

The Diverse Visitor Experience zones will be managed to protect and enhance the hydrologic and ecologic processes of the Merced River and its immediate environment. Riparian areas and meadows shall remain largely intact, supporting a diversity of native vegetation and wildlife species. However, localized areas can be developed with trails, roads, and parking areas and a greater amount of resource protection features (e.g., fencing and boardwalks) to allow for visitor access. Higher levels of resource impacts, such as trampling and soil erosion, and a greater amount of resource protection features might be expected in limited areas within the Day Use and Attraction zones to accommodate high numbers of visitors. The free flow of the river will remain primarily unimpeded. Water quality in the area shall be high.

The Diverse Visitor Experience zones protect cultural Outstandingly Remarkable Values, such as historic structures and prehistoric sites, by directing visitor access to areas able to withstand heavy use. Restoration of natural features such as wetlands and meadows will also restore the cultural landscape. Interpretation of historic resources is allowed in these zones to provide visitor education opportunities.

The Category 2 zones also protect and enhance recreational Outstandingly Remarkable Values, which emphasize the value of providing diverse recreational opportunities for visitors. The lower-intensity zones – Open Space and Discovery – provide opportunities for quiet enjoyment of the river corridor, while the Day Use and Attraction zones accommodate higher levels of use at park destinations.

Four management zones are defined for the Diverse Visitor Experience zone category:

- Zone 2A: Open Space (and Undeveloped Open Space)
- Zone 2B: Discovery
- Zone 2C: Day Use
- Zone 2D: Attraction

## Objectives

The overall management objectives for the Diverse Visitor Experience zones are:

- Manage for protection, enhancement, and restoration of Outstandingly Remarkable Values, sensitive resources, and natural processes
- Provide opportunities for varied levels of recreational use
- Provide quality interpretive and educational programs
- Direct visitors to locations able to withstand heavy use
- Manage major attraction areas to allow visitors to enjoy the resource with minimal environmental damage
- Manage for the protection and maintenance of cultural resources, including historical and archeological sites

## 2A. Open Space

The Open Space zone is characterized by relatively undisturbed natural areas that receive only incidental or casual use. Maintenance of these conditions will allow for the protection and enhancement of the biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values while providing access to diverse visitor activities.

The visitor experience in this zone will be self-directed, with few visitor or management encounters, which will contribute to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. The Open Space zone will be managed with very low tolerance for resource degradation from visitor use to protect and enhance biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values. Visitation levels may be controlled by parking limitations and by the lack of shuttle bus stops. These limits on use and facilities will allow natural areas to remain relatively unimpaired and to receive continued protection, restoration, and enhancement.

There will be limited trails and interpretive facilities. These will direct visitors away from hazardous areas and sensitive Outstandingly Remarkable Values, such as unique wetlands, and promote understanding of natural processes. These areas will generally be quiet with limited facilities. The areas can be relatively easy to access or require considerable walking and skill to access. Though not directly accessible by vehicles or from parking areas, noise from nearby vehicles could affect visitor experiences in this zone.

Resource protection activities in this zone will include preservation of cultural resources and restoration of natural processes impacted by contemporary development, restoration of natural flood cycles and river channel dynamics to sustain native plant and wildlife species, and use of fire management practices called for in the *Fire Management Plan* to enhance biological and hydrologic Outstandingly Remarkable Values. This zone also encourages the protection and enhancement of cultural resource Outstandingly Remarkable Values, including archeological sites, by limiting development and access. Restoration of natural resources such as wetlands and meadows will also contribute to the restoration of the cultural landscape.

**Activities** – The following activities will be typical in this zone:

- Hiking and walking
- Photography and nature study
- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Very limited interpretive programs (e.g., guided walks for small groups)

**Facilities** – The following facilities are allowed in this zone:

- Vehicle roads can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values
- Limited turnouts for short-term parking and scenic viewing or shuttle bus stops
- Limited unpaved trails for hiking
- Limited interpretive signs to protect natural or cultural resources or to promote understanding of natural processes
- Boardwalks, fencing, and other features to direct travel appropriately to avoid sensitive resources, such as meadows
- Bridges where necessary for access, improved circulation, safety, and resource protection
- Utilities (wells, utility lines, pump stations, and other facilities where they are screened from view)
- Minimal utility crossings of the river, only where necessary to support park operations

The following are examples of facilities that are **not** allowed in this zone:

- New roads and paved trails
- Day-visitor parking
- Support facilities, such as restrooms and picnic tables
- Interpretive centers
- Food services
- Bicycle paths
- Non-motorized watercraft launch and removal facilities
- Campgrounds and lodging

## **2A+. Undeveloped Open Space**

The Undeveloped Open Space zone is managed as de facto wilderness, primarily free from signs of human presence due to its inaccessibility. This zone will be used to protect those areas outside designated Wilderness that have limited or no trail access, such as the area west of the Wawona Campground along the South Fork. While Undeveloped Open Space areas will remain in pristine condition, visitors can experience some human influence due to noise from nearby roads. Typical activities include hiking, rock climbing, swimming, nature study, and fishing. Access will require considerable effort because of lack of trails.



This zone will be managed in a similar manner as the Untrailed zone (1A) by protecting and enhancing biological, geologic, hydrologic, cultural, scenic, and scientific Outstandingly Remarkable Values through limitations on development and access. The following facilities normally allowed in the Open Space zone (2A) are **not** allowed in this zone, but other prescriptions from the 2A zone will apply:

- Roads, either existing or new
- Turnouts
- Interpretive or directional signs
- Trails, boardwalks, or fencing
- Bridges
- Utilities

## **2B. Discovery**

The Discovery zone is characterized by relatively quiet natural areas where visitor encounters are low to moderate, which will contribute to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. However, during high-use periods, some concentrated use and more frequent visitor encounters can occur on trails that link destination points through the Discovery zone. The Discovery zone will be managed with low tolerance for resource degradation from visitor use, emphasizing the protection and enhancement of biological, hydrologic, scenic, cultural, and scientific Outstandingly Remarkable Values. The zone also emphasizes low-intensity visitor uses, which contribute to the spectrum of river-related activities specified in the recreation Outstandingly Remarkable Values. Limits on use and facilities will allow natural areas to remain relatively unimpaired, when they are not close to one of the few access roads. There will likely be trail access and interpretive signs at principal features and gathering areas, but the visitor experience would be largely self-directed. Areas in the Discovery zone can be used by individuals or smaller, organized groups. Access to these areas can require a moderate level of physical exertion, although some locations would be served by an access road and parking turnouts.

Within the Discovery zone, visitors will likely experience a variety of resources, including distant and close-range scenic views as well as opportunities to wade, swim, or fish in the river and to observe wildlife and plants. If use levels began to show an impact on resources, resource protection measures can be used, such as fencing and signs to direct travel from sensitive resources, well-marked trails and boardwalks, recycling and

trash containers, relocation of shuttle bus stops in this or adjacent zones, or other measures as needed.

Resource protection activities in this zone include restoration of natural processes affected by past or current human use, restoration of natural flood cycles and river channel dynamics to sustain native plant and wildlife species, and use of fire management practices called for in the *Fire Management Plan* to enhance biological and hydrologic Outstandingly Remarkable Values. This zone also encourages the protection and enhancement of cultural resource Outstandingly Remarkable Values, including archeological sites, by limiting development and access. Restoration of natural resources such as wetlands and meadows also contribute to the restoration of the cultural landscape.

**Activities** – The following activities will be typical in this zone:

- Hiking and walking
- Bicycling
- Photography and nature study
- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Picnicking, relaxing, and gathering at informal locations
- Limited interpretive opportunities (e.g., informal ranger contacts, guided walks for small groups)

**Facilities** – The following facilities are allowed in this zone:

- Vehicle roads and improved trails (can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values)
- Small turnouts for trail access parking, scenic viewing, or shuttle bus stops
- Trails for hiking and through-trails for bicycling
- Minimal restroom facilities as needed to protect resources
- Fences, boardwalks, platforms, and other features to direct travel around sensitive resources
- Interpretive, directional, and safety signs

- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as well sites, utility lines, pump stations, and other facilities (where screened from view)
- Minimal utility crossings of the river, only where necessary to support park operations

The following are examples of facilities that are **not** allowed in this zone:

- Day-visitor parking
- Picnic facilities
- Non-motorized watercraft launch and removal facilities
- Interpretive centers
- Food services
- Campgrounds and lodging

## 2C. Day Use

The Day Use zone is intended to be applied to popular park destinations, where visitors could spend significant periods of time enjoying the park resources in a relatively accessible setting. The Day Use zone enhances opportunities for visitors to enjoy more intensive recreational activities near the Merced River and supports a range of active recreational opportunities such as swimming, picnicking, and rafting, which contributes to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. Visitors can expect moderate to high numbers of encounters with other park users and crowding on certain peak days. Large groups can use these areas. Day Use areas may be accessible by automobile, shuttle bus, and by bicycle, with interpretive trails or other marked trails leading to waterfalls, beaches, and scenic views. In order to accommodate heavier and more concentrated activity, facilities such as parking areas, restrooms, fencing of sensitive areas, picnic tables, and recycling and trash receptacles are allowed.

Resource protection activities in this zone are comparable to those described in zones 2A and 2B. However, due to the larger volume of visitors, the Day Use zone will be managed with moderate tolerance for resource degradation from visitor use in specified areas. To protect and enhance cultural, biological, and hydrologic Outstandingly Remarkable Values, more extensive resource protection measures may be needed to direct visitor use away from sensitive resources. Examples include boardwalks adjacent to meadows or

fencing to prevent trampling and overuse. By encouraging higher visitor use in the Day Use zone, adjacent Open Space and Discovery zones will experience the desired lower visitor use for these areas. Some Day Use areas also protect historic resources, such as continued use of the Wawona Golf Course.

**Activities** – The following activities will be typical in this zone:

- Hiking and walking
- Photography and nature study
- Picnicking and social gathering
- Bicycling
- Stock use in specified locations
- Swimming and wading
- Rock climbing
- Fishing
- Use of non-motorized watercraft
- Full range of interpretive programs (e.g., ranger-led walks, talks)

**Facilities** – The following facilities are allowed in this zone:

- Roads and improved trails (can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values)
- Day-visitor parking
- Turnouts for parking or scenic lookouts
- Bicycle trails
- Shuttle bus stops
- Support facilities (e.g., restrooms, picnic tables, telephones)
- Marked, maintained, and paved trails, including bike paths and interpretive trails
- Fences, boardwalks, walls, signs, and other features to direct travel appropriately around sensitive resources
- Non-motorized watercraft launch and removal facilities
- Interpretive, directional, and safety signs and exhibits
- Utilities such as well sites, utility lines, pump stations, and other facilities (where screened from view)
- Utility crossings of the river (where necessary to support park operations)
- Bridges where necessary for access, improved circulation, safety, and/or resource protection

The following are examples of facilities that are **not** allowed in this zone:

- Interpretive centers
- Food services
- Campgrounds and lodging

## 2D. Attraction

The Attraction zone is applied to main park features that attract large numbers of visitors, such as viewing areas for Bridalveil Fall. Due to the high number of visitors, this zone will be managed with moderate tolerance for resource degradation in specified areas, not to exceed established standards. The visitor experience in this zone will be highly structured, with well-marked and often paved trails or other trails to guide visitors, which will contribute to the diversity of experiences specified in the recreation Outstandingly Remarkable Value. Visitors can expect a high level of encounters with other visitors in these moderately to very busy areas. Attraction areas can be accessible by automobile, shuttle bus, bicycle, and/or trail.

To accommodate high visitor use, substantial facilities such as restrooms, parking lots, bus access and parking, and picnic tables can be provided at the entry point of the attraction area or another appropriate site. Facilities will be concentrated within the attraction area to minimize the extent of development and impacts. As a result, many areas within an Attraction zone will have a well-used trail, but minimal developed uses away from the entry “hub” or access point. Trails can be paved, fenced, and well-signed to reduce potential resource impacts. Visitor use in sensitive areas will be formalized and concentrated to avoid resource damage.

By encouraging higher visitor use in the Attraction zone, adjacent Open Space and Discovery zones will experience the desired lower visitor use for these areas. This zone also will ensure that visitors have the opportunity to enjoy the park’s most popular features, some of which are designated scenic, recreational, or cultural Outstandingly Remarkable Values (e.g., views of granite domes, Wawona Covered Bridge).

**Activities and Uses** – The following uses will be typical in this zone:

- Hiking and walking
- Photography and nature study
- Sightseeing



- Stock use in specified locations
- Swimming and wading
- Fishing
- Rock climbing
- Bicycling (only in specified locations, to ensure visitor safety and resource protection)
- Full range of interpretive programs (e.g., ranger-led walks, talks)

**Facilities** – The following facilities are allowed in this zone:

- Roads (can be realigned or relocated where they do not adversely affect Outstandingly Remarkable Values)
- Day-visitor parking (to accommodate visitor access and administrative needs at high use areas)
- Bicycle trails
- Shuttle bus stops
- Support facilities such as restrooms, picnic tables, telephones, stables, and limited food services (where appropriate)
- Marked, maintained, and paved trails, including bike paths and interpretive trails (Trails can be hardened to direct visitors and minimize resource damage. Fences, boardwalks, walls, signs, and other features could be used to direct travel.)
- Interpretive centers
- Interpretive signs, exhibits, displays, and kiosks
- Utilities such as wells, utility lines, pump stations, and other facilities (where screened from view)
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Limited utility crossings of the river (where necessary to support park operations)

The following are examples of facilities that are **not** allowed in this zone:

- Non-motorized watercraft launch and removal facilities
- Campgrounds and lodging

## Category 3: Developed Zones

Carefully designed and located facilities are needed to meet the diverse needs of the many people who visit Yosemite National Park each year. The use of limited Developed zones provides sites for the facilities that enable the park to support its year-round visitor and employee populations and serve the needs of visitors. These include lodging, utilities, housing, and transportation facilities. Most of the Developed zones are located in areas that are currently, or that were previously, altered by development.

The purpose of the Developed zones is to direct high-impact activities and facilities to areas better able to withstand heavy use and/or already developed locations in order to further protect and enhance the hydrologic, biological, geologic, cultural, scenic, scientific, and recreation Outstandingly Remarkable Values in other parts of the corridor. The facilities allowed for in the Developed zones, such as campsites, lodging, day-visitor parking, operational facilities, and utilities are necessary to properly accommodate park visitors, many of whom are coming to experience the scenic, recreational, and other Outstandingly Remarkable Values of the Merced Wild and Scenic River.

While these zones can absorb the most concentrated visitor and administrative use, resource impacts will be minimized through design and siting of facilities, and the application of mitigation and restoration measures. These measures can include temporary or permanent fencing to reduce or exclude use in sensitive resource areas, revegetation with native species, and/or the prevention of the establishment of non-native species. Visitor use will be managed to reduce the potential impacts of concentrated use.

Higher levels of resource impacts (e.g., through the development of parking and other facilities) will be tolerated in specified areas within the Developed zones. In development areas, with more users and types of uses, there will be more site hardening and other management actions in order to maintain riparian areas, meadows, archeological sites, and other resources. While high-quality riparian habitat and meadows are not found in the Developed zones, use in these zones will be managed to prevent degradation or interference with the natural functions of adjacent zones. The free flow of the river will remain primarily unimpeded, with the exception of existing development such as historic

bridges in Yosemite Valley and riprap along the El Portal Road. Three management zones are defined within the Developed zones:

- Zone 3A: Camping
- Zone 3B: Visitor Base and Lodging
- Zone 3C: Park Operations and Administration (includes day-visitor parking)

## **Developed Zone Management Objectives**

The overall management objectives for the Developed zones include:

- Manage for protection and enhancement of Outstandingly Remarkable Values
- Concentrate support facilities to reduce development pressure on the remainder of the river corridor
- Provide overnight accommodations, support services, and amenities for visitors
- Provide quality interpretive and educational programs
- Provide support facilities for park operations
- Provide transportation facilities designed for sustainability
- Manage for the protection of cultural resources and cultural Outstandingly Remarkable Values
- Implement natural resource mitigation and restoration to greatest extent feasible

### **3A. Camping**

The Camping zone provides visitors with opportunities for both vehicle-access (or drive-to) camping and walk-in camping. Drive-to camping areas will include campsites with adjacent parking, providing convenient access to various facilities. Support facilities such as picnic tables and restrooms will be provided at camping areas. The Camping zone primarily supports the recreational Outstandingly Remarkable Values by ensuring access to diverse recreational activities near the Merced River. Most areas designated as Camping zones have been previously developed, including historic resources such as Camp 4 (Sunnyside Campground), which will be preserved under this zone. By concentrating relatively high-impact development to localized areas, this zone helps to protect and enhance natural and cultural resource Outstandingly Remarkable Values in the zone as a whole and in other parts of the river corridor.

Walk-in camping will provide an opportunity for visitors to camp away from vehicles, but retain access to facilities such as restrooms, water, and picnic tables. Campsites will be

accessed by relatively short and well-marked trails with directional and informational signs. In walk-in camping areas, visitors will have the opportunity to engage more directly with the natural environment of the Merced River corridor without the visual impacts of entry roads, parking lots, vehicles, or other major facilities.

While the Camping zone allows for both drive-to and walk-in camping, the less-intensive walk-in camping will be directed to more sensitive areas (e.g., North Pines), while drive-to camping will be directed to areas better able to withstand heavy use (e.g., Upper Pines). In both drive-to and walk-in camping areas, visitor encounters will be moderate to high in the relatively dense clusters of campsites. The Camping zone will be managed with moderate to high tolerance for resource impacts in localized areas. While a certain level of hardening for parking sites and trampling by campers is expected, use will be directed away from sensitive areas. River access will be provided via marked and potentially hardened trails to direct visitors to areas better able to withstand heavy use, such as annually (or regularly) flooded gravel bars.

**Activities** – The following activities will be typical in this zone:

- Overnight camping within designated campsites
- Hiking and walking
- Swimming and wading
- Fishing
- Sightseeing and photography
- Picnicking
- Bicycling (only in specified locations, to ensure visitor safety)

**Facilities** – The following facilities are allowed in this zone:

- Designated campsites (could be equipped with fire rings, picnic tables, nearby restroom facilities, and RV hookups)
- Roads and parking areas
- Shuttle bus stops
- Marked, maintained, and paved trails (fences, boardwalks, walls, footbridges, signs, and other features can be used to protect resources)
- Maintenance and administrative facilities needed to support campgrounds
- Directional, safety, informational, regulatory, or interpretive signs

- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as wells, utility lines, pump stations, and other facilities (where screened from view)
- Interpretive facilities such as an amphitheaters

The following are examples of facilities that are **not** allowed in this zone:

- Lodging, food services, stores
- Administrative offices not associated with camping
- Maintenance facilities not associated with camping

### **3B. Visitor Base and Lodging**

The Visitor Base and Lodging zone includes areas developed for visitor overnight use as well as support facilities and services such as orientation facilities, eating establishments, gift shops, and equipment rental. Most areas designated as Visitor Base and Lodging zones have been previously developed, including historic resources such as The Ahwahnee, Wawona Hotel, and LeConte Memorial Lodge, which will be preserved under this zone. The visitor can expect a bustling atmosphere in these areas, with high incidence of visitor encounters during peak-use times. Facilities and lodging areas will be easily accessible by shuttle bus, automobile, trail, and bicycle.

With its relatively intense level of development, a higher degree of resource impacts may be tolerated in localized areas within the Visitor Base and Lodging zone. Future projects in this zone will be designed to minimize the footprint of developed areas and to protect and restore adjacent natural and cultural resources. River access will be provided via marked and potentially hardened trails to direct visitors to areas most able to withstand heavy use, such as annually (or regularly) flooded gravel bars. Structures such as fences, boardwalks, or walls can be provided to reduce impacts on riparian areas from casual river access generated by nearby lodging facilities.

The Visitor Base and Lodging zone primarily supports recreational Outstandingly Remarkable Values by providing for visitor uses facilitated by development such as visitor centers, museums, and lodging, which enable visitors to access the park and learn about its natural and cultural resources. Additionally, by concentrating relatively high-impact development to localized areas, this zone will help to protect and enhance

natural and cultural resource Outstandingly Remarkable Values in the zone as a whole and in other parts of the river corridor.

**Activities** – The following activities will be typical in this zone:

- Lodging
- Hiking and walking
- Swimming and wading
- Fishing
- Sightseeing and photography
- Bicycling (only in specified locations, to ensure resource protection and visitor safety)
- Shopping
- Dining
- Full range of formal interpretation (e.g., slide shows, visitor center, walks)
- Marked, maintained, and paved trails

**Facilities** – The following facilities are allowed in this zone:

- Bicycle trails
- Visitor overnight accommodations (lodges, motel-type units, cabins, tent cabins)
- Fences, boardwalks, walls, signs, and other features to direct use and protect resources
- Visitor services (e.g., visitor center, museums, eating establishments, gift shops, equipment rental)
- Roads and parking areas
- Bus turnouts, stops, and parking
- Bridges where necessary for access, improved circulation, safety, and/or resource protection
- Utilities such as wells, pump stations, utility lines, and other facilities (screened from view)
- Interpretive facilities, such as amphitheaters
- Supporting operational facilities, such as employee housing, only where it is ancillary to the primary use (i.e., a small percentage of the total available area)



The following are examples of facilities that are **not** allowed in this zone:

- Administrative offices not associated with visitor base or lodging operations
- Maintenance facilities and major utilities not associated with visitor base or lodging operations
- Day-visitor parking/transit center

### **3C. Park Operations and Administration**

The limited use of the Park Operations and Administration zone provides locations for facilities that support the efficient functioning of the park. Many areas designated as 3C have been previously developed, including historic resources such as the Chapel in Yosemite Valley, which will be preserved under this zone. The Park Operations and Administration zone will also provide opportunities for the management of private vehicles and public transit in the park, as well as interpretive centers that help visitors learn about the park's natural and cultural resources. Visitor use and experience of these zones will be limited. These areas will likely be relatively busy, with heavy impacts from vehicles and will be managed with a high tolerance for resource impacts in localized areas. New facilities will use sustainable design and construction principles to protect adjacent natural and cultural resources and would be subject to the criteria and considerations (see page 31).

The Park Operations and Administration zone will primarily support access to the recreational Outstandingly Remarkable Values of the Merced River by providing space for necessary park operations as well as for day-visitor parking. Additionally, by concentrating relatively high-impact development in localized areas, this zone will help to protect and enhance natural and cultural resources in the zone as a whole and in other parts of the river corridor.

**Activities** – The following activities will be typical in this zone:

- Administrative activities by park staff
- Maintenance and repair activities by park operations staff
- Transportation/transit-related activities
- Visitor orientation and interpretation near parking/transit areas
- Picnicking near parking/transit areas
- Bicycling (only in specified locations, to ensure visitor safety)
- Marked, maintained, and paved trails, including bike paths and interpretive trails

**Facilities** – The following facilities are allowed in this zone:

- Day-visitor parking/transit center
- Roads, paved and unpaved (In strictly administrative areas, roads could be dirt or paved and closed to non-administrative traffic.)
- Support facilities (including park administrative offices, employee housing, storage, construction staging areas, and utilities such as wastewater treatment plants, sprayfields for reclaimed water, domestic water supply, power plants, and other facilities)
- Interpretive facilities
- Visitor support facilities such as restrooms, picnic tables, telephones, food services, bike rental, small gift shops, showers, and lockers for visitors and employees
- Park information and orientation signs, exhibits, and kiosks
- Bridges where necessary for access, improved circulation, safety, and/or resource protection

The following are examples of facilities that are **not** allowed in this zone:

- Campgrounds and lodging for visitors



# Management Zoning Application

This section describes the application of the management zones to the river corridor by segment. The zoning is also illustrated in figures 4 to 7. Following the segment-by-segment zoning descriptions is a brief discussion of the *Merced River Plan* intent regarding the removal of historic bridges, use of non-motorized watercraft, treatment of private property, and identification of additional studies to assist in future management.

## Wilderness (Main Stem)

Boundary: 1/4 mile  
Classification: Wild

Starting high in the alpine reaches of the park, the four primary forks of the Merced River flow through an alpine landscape with scant human presence. These tributaries are currently crossed by trails in seven locations (zoned 1B), with one bridge on the lower Merced Peak Fork. Areas zoned Untrailed (1A) have no marked or maintained trails or other facilities beyond small, dispersed campsites in some areas. The tributary areas are characterized by very low visitor use and very little resource impact. This low level of use will protect special-status species and other biological Outstandingly Remarkable Values. These areas also provide outstanding opportunities for solitude, and primitive and unconfined recreation (a recreational Outstandingly Remarkable Value).

In the Trailed Travel zone (1B) between the headwaters and the popular wilderness camping sites at Merced Lake High Sierra Camp and Little Yosemite Valley Campground, visitors are expected to engage in recreational activities such as day hiking, backpacking, horseback riding and packing, and camping in a riverine environment, which are recognized as recreational Outstandingly Remarkable Values.

At the Merced Lake High Sierra Camp, Backpackers Campground, and Little Yosemite Valley Campground (including Moraine Dome Campground), visitors will find a group atmosphere and various facilities, such as lodging at Merced Lake High Sierra Camp and designated campsites and toilets at Merced Lake and Little Yosemite Valley Campgrounds. Zoning in and around the campgrounds is Designated Overnight (1D). This zoning allows for continued use of historic High Sierra Camp structures, which are cultural Outstandingly Remarkable Values. The intent of the Designated Overnight areas is also to keep higher-impact activities confined to small areas in order to improve

protection of natural and cultural resources (e.g., riparian habitat, archeological sites) in the remainder of the river corridor.

On the final descent from the wilderness toward Nevada Fall, the north side of the river corridor, zoned Heavy Use Trail (1C), is characterized by trails that are increasingly maintained and developed, with fairly frequent visitor and park staff encounters. This area provides a diversity of recreational opportunities such as hiking and enjoyment of natural river sounds, which are recognized as recreation Outstandingly Remarkable Values.

The River Protection Overlay will protect and enhance hydrologic-process Outstandingly Remarkable Values, such as glacial remnants, cascades, and a logjam in Little Yosemite Valley that is hundreds of years old. The River Protection Overlay will also protect and enhance scenic Outstandingly Remarkable Values that are located in the riverway (e.g., Merced Lake, Washburn Lake, and the Bunnell Cascades).

## East Yosemite Valley (Main Stem)

Boundary: 1/4 mile

Classification: Recreational

The base zoning for the east Valley (from Happy Isles to Sentinel Beach) is Day Use (2C). The area is available for a variety of recreational and educational activities such as nature study, hiking, swimming, fishing, and picnicking, which are part of the recreational Outstandingly Remarkable Values in this segment. Facilities could include some roads, improved trails, shuttle bus stops, restrooms, picnic tables, non-motorized watercraft launch and removal facilities, and other facilities to support active individual and group recreation uses and access to the river. The fen at Happy Isles and other unique wetlands are protected under the restrictive Open Space zoning (2A). Leidig Meadow and areas south of Southside Drive, including Sentinel Meadow, are zoned Discovery (2B) to reduce visitor impacts to these sensitive resources. Other areas, such as the stretch of the river corridor from Nevada Fall to Happy Isles, is zoned Attraction (2D) to allow high levels of visitation to this popular area and provide for adequate facilities to accommodate concentrated numbers of visitors. Primary visitor-serving facilities for the Nevada Fall to Happy Isles segment will be sited near the trailhead at Happy Isles. Formal interpretive programs, such as tours for larger groups, could be available, with visitor-serving facilities and numerous encounters with other visitors and park staff.

The zoning allows for camping at historic Camp 4 (Sunnyside Campground), and at North Pines, Lower and Upper Pines, and Yellow Pine Campgrounds. Housekeeping Camp, zoned Visitor Base and Lodging (3B), could continue to provide a lower cost, family-oriented camp setting, with tent cabins that have electricity and grills. However, the application of the River Protection Overlay could, in the future, trigger a reduction in the extent of Housekeeping Camp due to its proximity to the river. By encouraging such restoration efforts, the River Protection Overlay is particularly important for the protection and enhancement of hydrologic process Outstandingly Remarkable Values in this segment, which recognize the meandering flow of the river. Yosemite Lodge, The Ahwahnee, and the LeConte Memorial Lodge are also zoned Visitor Base and Lodging. Yosemite Village is zoned for Park Operations and Administration to allow for the existing mix of visitor services and park operations. Camp 6 is provisionally zoned to allow for a day-visitor parking facility (Park Operations and Administration – 3C). However, if such a facility were determined not to be needed or were located elsewhere, the Camp 6 area would convert to the surrounding base zone of Day Use (2C) and would not be used for park operations purposes.

## West Yosemite Valley (Main Stem)

Boundary: 1/4 mile  
Classification: Scenic

The base zoning in the area between Sentinel Beach and Pohono Bridge is Discovery (2B). This zoning provides opportunities for self-directed, reflective, and quiet engagement with the river corridor. The zoning intends for reduced visitor use and more limited facilities, such as turnouts, small restrooms, and trails, in order to protect the riparian areas and low-elevation meadows identified as biological Outstandingly Remarkable Values of this segment. Unique wetlands are also protected under the Open Space (2A) zoning. Recreational opportunities of less intensity are available here, contributing to the protection of the recreation Outstandingly Remarkable Value. However, concentrated visitor use occurs at several popular destinations, such as Bridalveil Fall and Tunnel View (zoned 2D – Attraction), and at areas such as Cathedral Beach, Sentinel Beach, and El Capitan Picnic Area, zoned Day Use (2C). In these more intensive-use areas, roads, paved paths, restrooms, and other facilities can be provided. Yellow Pine Campground is double-zoned, which allows for its continued use as a park volunteer campground or for visitor camping in the future.

The Taft Toe area is provisionally zoned to allow for a transit center/day-visitor parking facility. However, if such a facility were located elsewhere, the Taft Toe area would convert to the base zone of Discovery (2B) and would not be used for park operations purposes. West of Taft Toe, a section of the corridor is zoned Park Operations and Administration (3C) in order to accommodate a potential traffic check station at that location. The intent of focusing use in this area is to help alleviate traffic and congestion in the remainder of the Valley. This zoning would not only assist in meeting *General Management Plan* goals, but would facilitate greater levels of protection and enhancement of Outstandingly Remarkable Values elsewhere in the river corridor. The woodlot and Pohono Quarry are also zoned Park Operations and Administration (3C). The corridor includes portions of the wilderness area above the Valley floor, zoned Untrailed (1A) or Trailed Travel (1B), as appropriate.

## Gorge, including Cascades Diversion Dam (Main Stem)

Boundary: 1/4 mile

Classification: Scenic, except at Cascades Diversion Dam where it is Recreational

The base zoning of the gorge segment is a mix of Discovery (2B) and Open Space (2A). These zones protect and enhance the scenic, biological, hydrologic, and cultural Outstandingly Remarkable Values in this segment, which include views of spectacular rapids, waterfalls, and rock formations, intact riparian habitat and associated special-status species, and prehistoric and historic sites and structures. The north side of the river is zoned Discovery (2B); access and activities are self-directed for swimming, fishing, and nature observation by individuals and small groups. There could be some roadway turnouts and developed trails. South of the river, the Open Space (2A) areas are characterized by largely undisturbed natural conditions and limited visitor access. Below the Cascades area, the south side of the river is zoned Undeveloped Open Space (2A+) to ensure it remains relatively undisturbed, without roads, trails, utilities, or other facilities. This area is also the site of a valuable live oak research area. Opportunities for solitude is great in these areas due to low levels of visitation, and consequently, protection of the natural and cultural resources of the river corridor will be extensive.

At the Cascades, zoned Attraction (2D), easy access to recreational Outstandingly Remarkable Values, such as viewing the river and Cascades, picnicking, and sightseeing, allows for more concentrated visitor use. The zoning also allows for continued use of the park entrance station at Arch Rock. However, if the entrance station were eventually relocated, this area would become a Day Use zone (2C). The



Cascades powerhouse above the Cascades area is zoned for Park Operations and Administration (3C). The powerhouse is also a substation and is a critical operation for electric service to Yosemite Valley.

The removal of the Cascades Diversion Dam is allowed by the zoning and would enhance the free-flowing condition of the river as well as allow for the segment to be reclassified from a Recreational to a Scenic river. The removal of an impoundment would be considered a water resources project under Section 7 of the Wild and Scenic Rivers Act, and the project must undergo the Section 7 determination process previously outlined in this chapter. Additional site-specific environmental review would also be conducted for such a project.

## El Portal (Main Stem)

Boundary: 100-year floodplain or the extent of the River Protection Overlay, whichever is greater  
Classification: Recreational

The base zone through much of the El Portal Administrative Site is Day Use (2C), supporting relatively concentrated and active recreational uses such as swimming, picnicking, fishing, and white-water rafting. The continuous rapids are recognized as hydrologic process Outstandingly Remarkable Values, and associated white-water rafting and kayaking opportunities are recognized as recreational Outstandingly Remarkable Values of this segment. In this area, the river gradient is less steep, providing easier access to swimming holes and fishing for residents and visitors. A number of park administrative facilities, including employee housing, offices, a warehouse, and wastewater treatment plant, are allowed in this segment and are visible from the road and the river. The Park Operations and Administration zoning (3C) allows for expansion of park-related facilities, such as employee housing, to enable such facilities to be relocated from Yosemite Valley. (See the El Portal Administrative Site enabling legislation discussion on page 22.) The concentration of high-intensity administrative uses in El Portal allows for increased protection and enhancement of natural and cultural resource Outstandingly Remarkable Values for the remainder of the river corridor.

Although the 100-year floodplain boundary is used in this segment instead of the quarter-mile boundary, the Outstandingly Remarkable Values are still required to be protected, even when they are located outside the boundary. In addition, the El Portal Administrative Site was established by legislation to accommodate administrative

functions required to support Yosemite National Park; by allowing removal of these uses from Yosemite Valley, river-related sensitive resources in Yosemite Valley can be further protected and enhanced.

## **Wilderness (South Fork)**

Boundary: 1/4 mile

Classification: Wild

The majority of wilderness areas on the South Fork of the Merced River are designated Untrailed zones (1A) to maintain their pristine character and lack of facilities. On sections zoned Trailed Travel (1B) (where hiking trails cross the river or parallel it for a short distance), visitors hike in the corridor and have access to marked trails with directional signs. In this segment, visitors can enjoy river-related recreational values, including primitive and unconfined recreation and enjoyment of natural river sounds. By limiting visitor access and use, the zoning ensures that solitude-based enjoyment of the corridor is protected and enhanced. Limited visitor use also provides protection and enhancement of the segment's biological, hydrologic, cultural, and scenic Outstandingly Remarkable Values, which include the diverse riverine environment, free-flowing condition, excellent water quality, prehistoric sites, and views of unique features such as pothole pools within slick rock cascades, old growth forest, and meadows.

## **Wawona (South Fork)**

Boundary: 1/4 mile

Classification: Recreational, including the Impoundment; Wild below Wawona Campground

The Wawona segment encompasses the South Fork from the Wawona Impoundment to the park boundary, including parts of Section 35, which contains numerous privately owned properties. Private land within the river corridor is not subject to zoning under this plan. Zoning designations shown in figure 7 apply only to publicly held property. However, the National Park Service will work with Mariposa County and the local community to ensure that river-related values are protected.

The base zone designation for the area between the Wawona Impoundment and Squirrel Creek is Discovery (2B), providing self-directed access to the river for swimming, fishing, and nature observation. The relatively low level of development and use prescribed by the Discovery zone protects and enhances the biological, cultural, and scenic Outstandingly Remarkable Values of the segment, which include a diversity of riparian habitat, wetlands, prehistoric and historic archeological sites, and views of Wawona

Dome. Support facilities in the 2B zone can include roads, occasional turnouts, and improved trails. The area south of the river between the Wawona Golf Course and Squirrel Creek is zoned Open Space (2A) to protect its relatively undisturbed natural condition. Areas zoned for more intense uses include the Wawona Campground (zoned Camping – 3A), the Pioneer Yosemite History Center (zoned Attraction – 2D), Wawona Picnic Area (zoned Day Use – 2C), and the historic Wawona Hotel (zoned Visitor Base and Lodging – 3B). The historic Wawona Golf Course is zoned Day Use (2C) to allow its continued recreational use. The golf course also serves as a sprayfield for reclaimed water. Both of these uses are permissible under the zoning.

The wastewater treatment plant and maintenance facility is zoned Park Operations and Administration (3C) to allow for continued use of these functions. Maintenance areas within the River Protection Overlay could be removed to restore the immediate riparian area. The vicinity of the Wawona Impoundment is zoned Park Operations and Administration (3C) to allow continued use of the site as a domestic drinking water supply facility. The impoundment may be removed if an alternate water supply can be secured. If removed, the area would revert to its background zoning (2B).

In Section 35 in Wawona, though zoned primarily as 3C, Park Operations and Administration, it is the intent of the National Park Service that any other development for administration or operations in Section 35 north of the South Fork of the Merced River be compatible in character, density, and scale to existing residential and commercial development in Section 35.

For the area zoned jointly 3A/3C on the south side of the South Fork of the Merced River in Section 35, should the National Park Service determine that new, high density housing is not required to be located in this zone, it is the intent of the National Park Service that any development for administration or operations in this zone be compatible in character, density, and scale to existing residential and commercial development in Section 35. The potential use of this zone (as described under management zone 3A) will not change.

Below the Wawona Campground, the river corridor is zoned Undeveloped Open Space (2A+) to protect its relatively undisturbed natural condition. The zoning protects and enhances scenic, biological, recreational, cultural, and hydrologic process Outstandingly Remarkable Values, which include views of the undisturbed river canyon, opportunities

for solitude and enjoyment of natural river sounds, diverse riparian areas, and archeological sites. No trails, roads, utilities, signs, or other facilities will be constructed in this zone.

The Wawona Impoundment on the South Fork could be removed if an adequate, feasible, and safe water supply alternative could be implemented. The removal of the Impoundment would improve the free-flowing condition of the river and allow for the segment to be reclassified from a Recreational to a Scenic river. The removal of an impoundment would be considered a water resources project under Section 7 of the Wild and Scenic Rivers Act, and the project must undergo the Section 7 determination process previously outlined. Additional site-specific environmental review would also be conducted for such a project.

## All Segments

**Historic Bridges.** A number of bridges spanning the Merced River in Yosemite Valley are eligible for or listed on the National Register of Historic Places. As nationally significant, river-related historic structures, these bridges are included as components of cultural Outstandingly Remarkable Values of the Merced River. Some of these bridges have been found to impede the free flow of the river. These bridges, as well as nonhistoric bridges, could be removed under this plan. Such action would not take place without a thorough evaluation of the project to determine whether the adverse impacts to the cultural Outstandingly Remarkable Value were justified by a significant improvement in the free-flowing condition of the Merced River. Any removal of a historic bridge will require a Wild and Scenic River Section 7 determination and compliance with the National Historic Preservation Act and the National Environmental Policy Act.



**Non-Motorized Watercraft.** The *Merced River Plan* does not restrict the use of non-motorized watercraft, such as rafts and kayaks, on any segment of the river. Boating activities, along with all other visitor uses, will be monitored through the VERP process to assure that the free-flowing condition of the river and its Outstandingly Remarkable Values are not degraded. For example, individuals can continue to kayak, by permit, from Sentinel Beach Picnic Area to Pohono Bridge. In addition, kayaking is allowed downstream of Swinging Bridge (South Fork) and from Stoneman to Sentinel Bridges without a permit under specified conditions.

Regulation of non-motorized watercraft use will continue under National Park Service regulations, park policies, and standard operating procedures, as appropriate, to ensure visitor safety and protection of natural river processes. Additionally, as a result of the VERP framework, the National Park Service may manage or restrict use of non-motorized watercraft to address impacts associated with visitor use and achieve desired resource conditions and desired visitor experiences.

Management zoning under the *Merced River Plan* guides the development of facilities for watercraft launch and removal. Such facilities are allowed only in the Day Use zone (see the Management Zoning Prescriptions on page 74).

**Private Property.** Private property within the river corridor is not zoned by the *Merced River Plan*. The Secretary of the Interior is authorized to acquire lands and interests in lands within the authorized boundaries of the main stem and South Fork of the Merced River under Section 6(a) of the Wild and Scenic Rivers Act, and to use condemnation to acquire easements on lands within the corridor when necessary. However, it is the intent of the National Park Service to work cooperatively with private landowners whenever possible within the corridor to ensure that the Outstandingly Remarkable Values of the river segment are protected and enhanced.

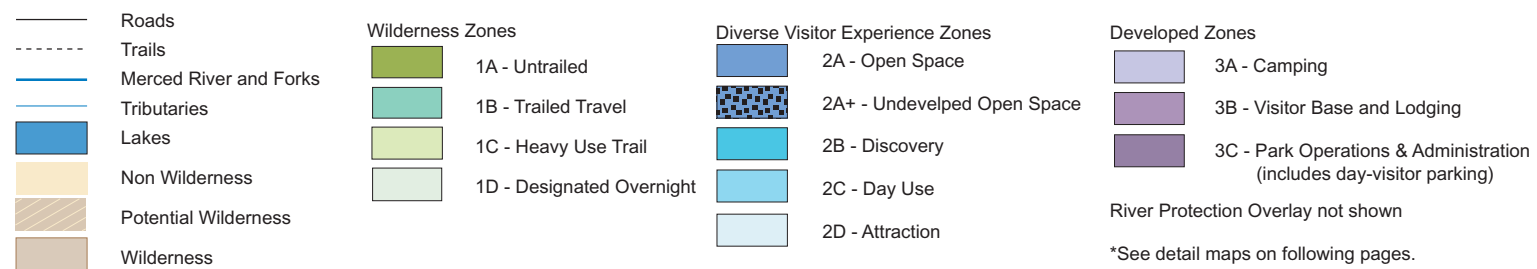
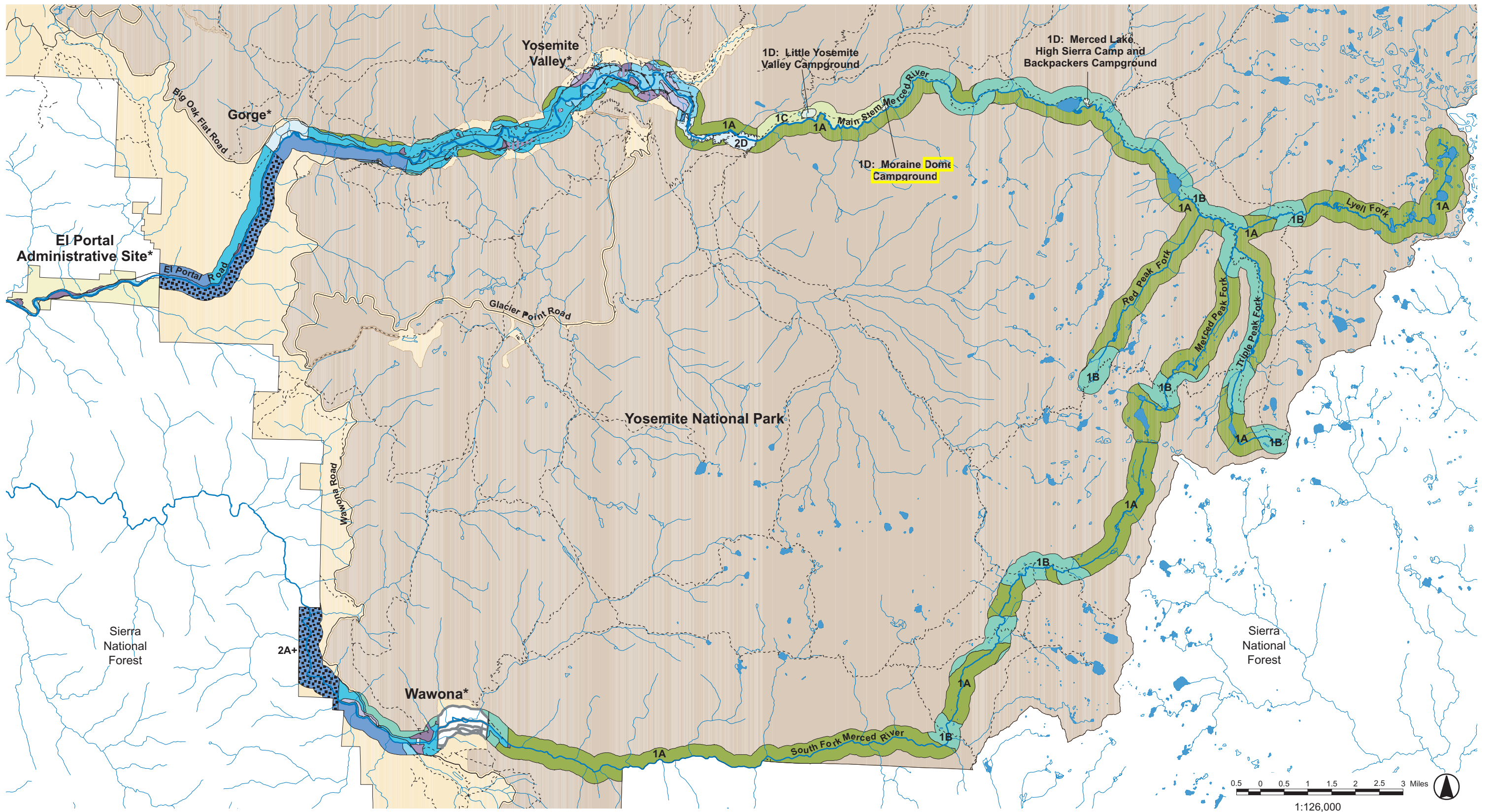
Section 10(e) of the Wild and Scenic Rivers Act allows federal agencies to enter cooperative agreements with state and local governments in the administration of a river segment. While no incorporated cities exist within the corridor, it is the intent of the National Park Service to work with Mariposa County during the development of any future zoning ordinances to ensure that such zoning is consistent with the purposes of the Wild and Scenic Rivers Act. The graphics used in this plan depict the general area of private properties in the corridor, but do not delineate precise parcel boundaries.

**Additional Studies.** The National Park Service has identified other studies, listed below, that could be conducted to provide updated information to the *Merced River Plan* and assist in future management.

- (1) El Capitan Moraine Restoration Feasibility Study: This study would analyze the technical feasibility and likely consequences of restoring the moraine near the El Capitan Meadow to its historic condition.
- (2) Wawona Alternative Water Sources: This study would examine alternative water supply sources for Wawona to potentially allow the impoundment to be removed.
- (3) Cultural Landscape Study for Wawona: This study would assess the various cultural landscapes in Wawona to determine future needs for protection, restoration, or modification.

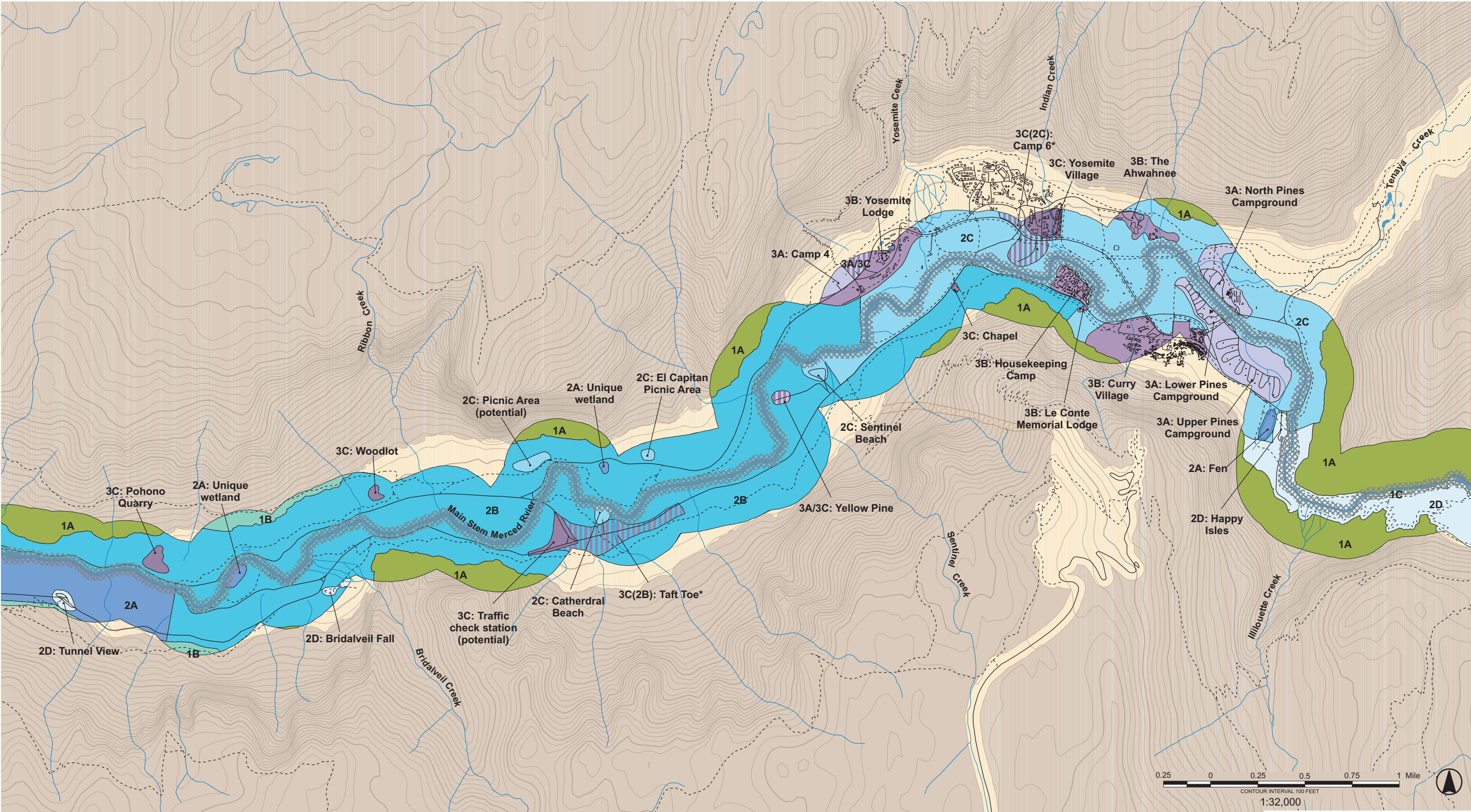






**Figure 4**  
**Management Zones**





- Roads
- Trails
- Merced River and Forks
- Tributaries
- Lakes
- Non Wilderness
- Potential Wilderness
- Wilderness

- Wilderness Zones
- 1A - Untrailed
  - 1B - Trailed Travel
  - 1C - Heavy Use Trail
  - 1D - Designated Overnight

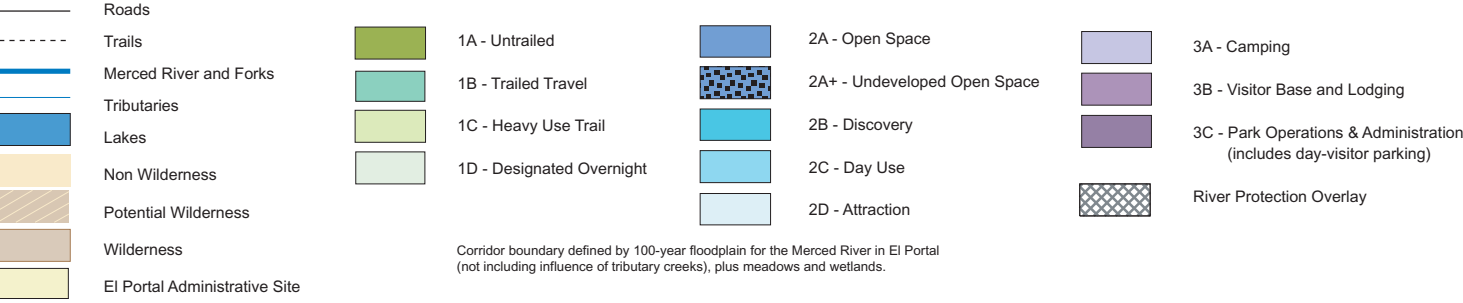
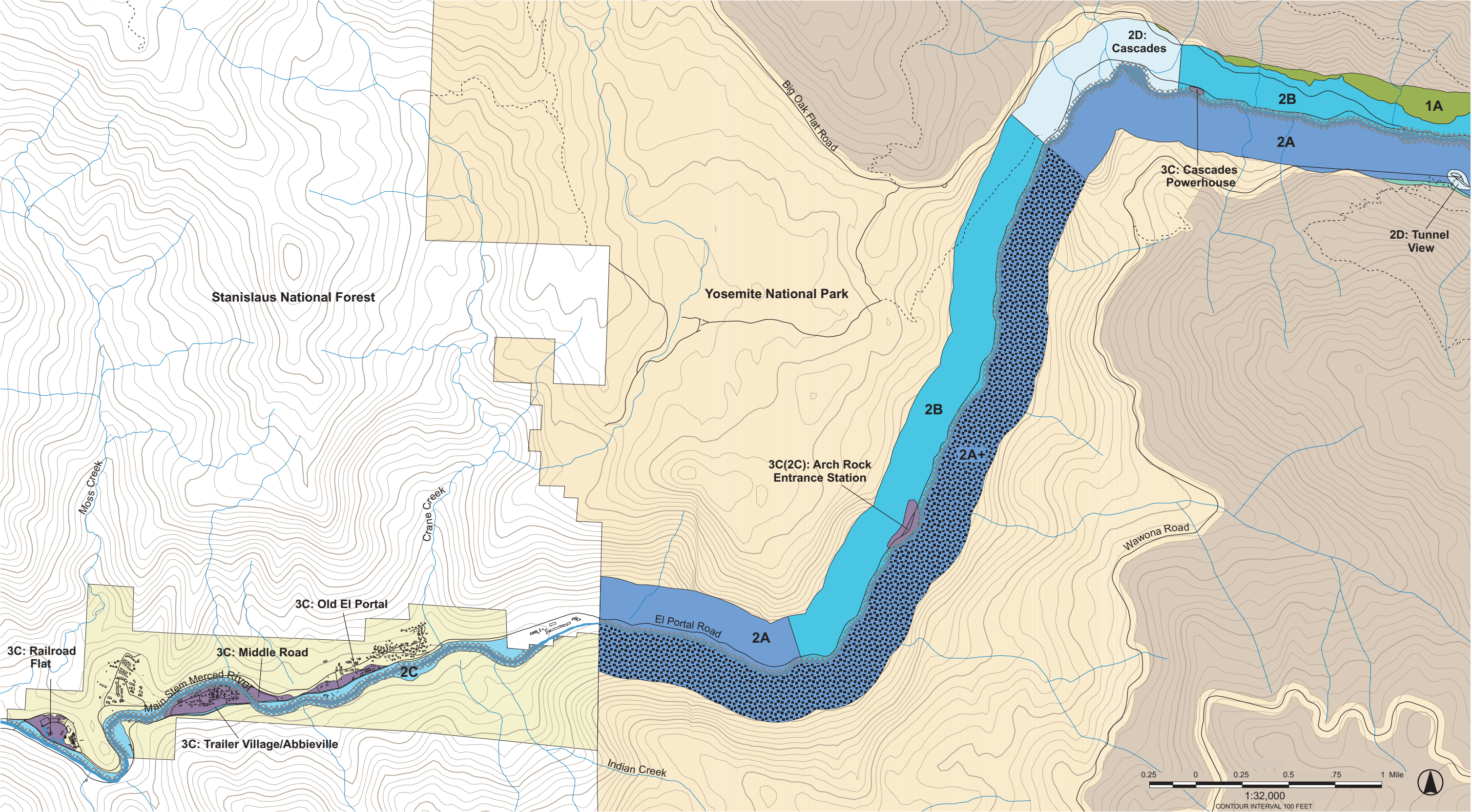
- Diverse Visitor Experience Zones
- 2A - Open Space
  - 2A+ - Undeveloped Open Space
  - 2B - Discovery
  - 2C - Day Use
  - 2D - Attraction

- Developed Zones
- 3A - Camping
  - 3B+ - Visitor Base and Lodging
  - 3C - Park Operations & Administration (includes day-visitor parking)
  - River Protection Overlay

\* Either Camp 6 or Taft Toe may be used as day-visitor parking. If Taft Toe is selected, Camp 6 would revert to 2C. If Camp 6 is selected, Taft Toe would revert to 2B. If a different site is selected, both would revert to their respective base zones.

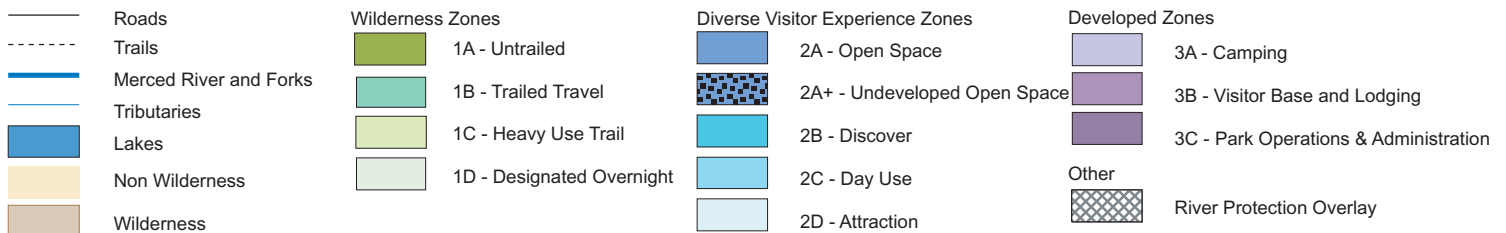
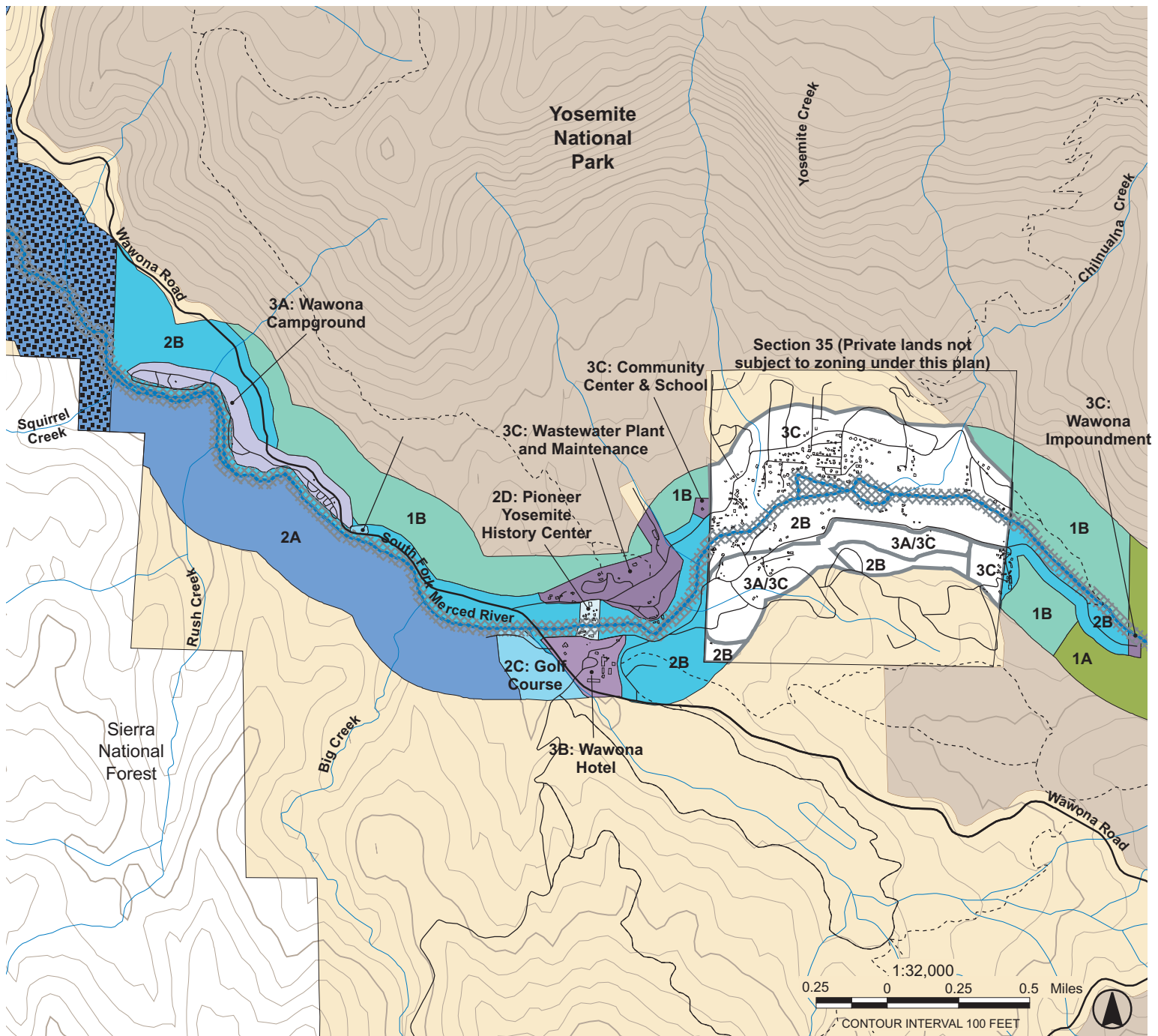
Figure 5  
Management Zones  
Yosemite Valley





**Figure 6**  
**Management Zones**  
**El Portal and Gorge**





3C zoning in Section 35 would be compatible in character, density, and scale to existing residential and commercial development.

**Figure 7**  
**Management Zones**  
**Wawona**

# Visitor Experience and Resource Protection

## Purpose

The Visitor Experience and Resource Protection (VERP) framework is a tool developed by the National Park Service to address user capacities and is adopted by the *Merced River Plan* to meet the requirements of the Wild and Scenic Rivers Act. It protects both park resources and visitor experience from impacts associated with visitor use, and helps managers address visitor use issues. The VERP framework is an ongoing, iterative process of determining desired conditions (including desired cultural resource conditions, desired natural resource conditions, and desired visitor experiences), selecting and monitoring indicators and standards that reflect these desired conditions, and taking management action when the desired conditions are not being realized. VERP is a decision-making framework, but does not diminish management's role in decision-making; in fact, management would have to make crucial decisions in determining desired conditions, choosing appropriate management action, and assessing occasional overlap between protecting park resources and providing for visitor experiences.

For the purposes of this plan, the VERP framework will be used as a form of adaptive management. Adaptive management requires a continual learning process, a reiterative evaluation of goals and approaches, and redirection based on an increased information base and changing public expectations (Baskerville 1985). Knowledge and understanding of visitor use issues will improve and evolve over time, and management actions will adapt accordingly. Continual hypothesis testing, data collection, and data analysis will likely result in refinement of desired conditions and, accordingly, refinement of indicators and standards. The implementation of the VERP framework for the Merced Wild and Scenic River corridor will focus on protecting the Outstandingly Remarkable Values and would dovetail with future implementation of the VERP framework outside the river corridor.

One of the methods through which the *Merced River Plan* fulfills the requirement of the Wild and Scenic Rivers Act to address user capacities is the adoption of the VERP framework. The following section provides an overview of the VERP framework, describes

how it will be implemented, and gives examples of desired conditions, indicators, standards, and the type of management actions that could result from implementation of the VERP framework.

## The User Capacity Mandate

In 1992, the National Park Service began developing the VERP framework to address visitor management and user capacity issues within the National Park System. The National Park Service is required by law to address user capacity in planning for parks. Relevant legislation and guidelines include the National Parks and Recreation Act, the Wild and Scenic Rivers Act, and the 1982 Wild and Scenic Rivers Guidelines. These are briefly summarized below.



*Swinging Bridge, Wawona*

**1978 National Parks and Recreation Act (Public Law 95-625).** Requires each park's general management plan to include "identification of and implementation commitments for visitor carrying capacities for all areas of the [park]."

**Wild and Scenic Rivers Act, §10(a).** "Each component of the National Wild and Scenic Rivers System shall be administered in such a manner as to protect and enhance the values which cause it to be included in said system without, insofar as is consistent therewith, limiting other uses that do not substantially interfere with public use and enjoyment of these values. In such administration, primary emphasis shall be given to protecting its aesthetic, scenic, historic, archeologic, and scientific features. Management plans for any such component may establish varying degrees of intensity for its protection and development of the special attributes of the area."



**Wild and Scenic Rivers Act, §3(d)(1).** “The [comprehensive management plan] shall address resource protection, development of lands and facilities, user capacities, and other management practices necessary or desirable to achieve the purpose of this act.”

**1982 Interagency Guidelines on the Wild and Scenic Rivers Act.** Defines user capacity as: “the quantity of recreation use which an area can sustain without adverse impact on the Outstandingly Remarkable Values and free-flowing character of the river area, the quality of recreation experience, and public health and safety.”

In the VERP framework, user capacity is defined as: “The type and level of visitor use that can be accommodated while sustaining the desired resource and social conditions that complement the purposes of the park units and their management objectives.” VERP addresses user capacity by prescribing desired conditions, not by prescribing maximum visitor use (e.g., numbers of people). Monitoring of the desired conditions replaces the monitoring of maximum visitor use. Based on the desired conditions, VERP will identify the types and levels of visitor use that are appropriate, with particular focus on the protection of Outstandingly Remarkable Values.

## Overview of the VERP Framework

The VERP framework consists of nine elements,<sup>4</sup> four of which are key: (1) determination of desired conditions, which are part of the management zoning prescriptions; (2) selection of indicators and standards that reflect the desired conditions; (3) monitoring of the indicators and standards; and (4) implementation of management action when the desired conditions are violated or when conditions are deteriorating and preventive measures are available. Together, these elements will help park managers make decisions about visitor use and resource protection. Figure 8 illustrates the VERP process.

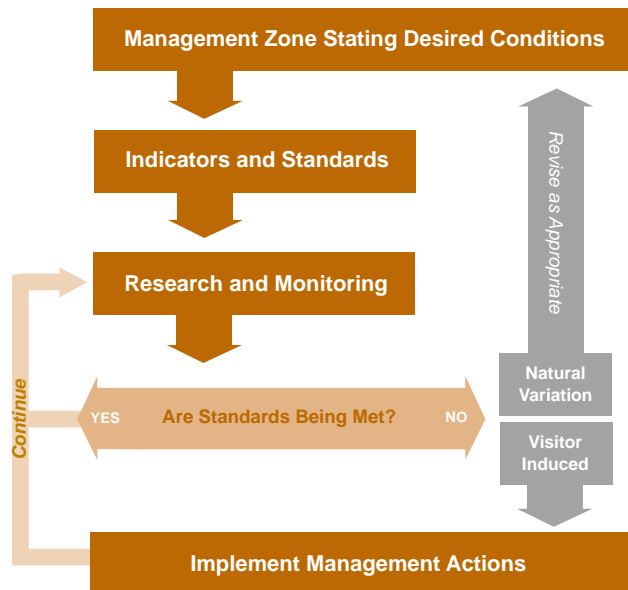
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<sup>4</sup> See the *Visitor Experience and Resource Protection (VERP) Framework: A Handbook for Planners and Managers* for a discussion of the nine elements of VERP (1997a).

## Desired Conditions and Management Zones

The VERP framework relies on the concept of desired conditions, which are contained in the management zoning prescriptions and identify how different areas in the river corridor would be managed. Each management zone prescribes a set of desired resource conditions, desired visitor experiences, and types and levels of uses. The *Merced River Plan* management zoning is designed to protect and enhance the Outstandingly Remarkable Values and free-flowing condition of the Merced River. Desired conditions focus on the Outstandingly Remarkable Values and guide the protection and enhancement of those values, and can be refined over time as knowledge and understanding of conditions and issues improve.

Figure 8  
VERP Process



In order to implement VERP over the diverse array of ecological types that occur within the river corridor, desired conditions will be developed for each combination of *Merced River Plan* management zones and ecological types (e.g., upper montane coniferous forest, grassland/meadow/herbaceous, etc.).

## Indicators and Standards

A major premise of VERP is that desired conditions, which are qualitative in nature, can be translated into measurable indicators and standards. Indicators and standards reflect desired conditions and enable park management to determine whether or not desired conditions are being realized. “Indicators,” which are measurable variables, are determined first; “standards” are the acceptable measurements (i.e., values) for that indicator. Desired conditions for each combination of management zone and ecological type would have specific indicators and standards developed. Resource indicators

**TABLE 3**  
**Example Indicators and Standards**

Sample Hydrologic Process Outstandingly Remarkable Value Indicators and Standards	
<b>Indicator:</b>	Fecal Coliform Bacteria (pristine water quality Outstandingly Remarkable Value)
<b>Standard:</b>	Fecal coliform bacteria should not exceed a geometric mean of 200/100 ml based on five samples for any 30-day period
<b>Indicator:</b>	Dissolved Oxygen Content (pristine water quality Outstandingly Remarkable Value)
<b>Standard:</b>	The dissolved oxygen concentrations should not be reduced below 5.0 mg/l for waters designated as warm waters nor 7.0 mg/l for waters designated cold waters or spawning waters
<b>Indicator:</b>	Water/Stream Turbidity (pristine water quality Outstandingly Remarkable Value)
<b>Standard:</b>	Where natural turbidity is between 0 and 5 Nephelometric Turbidity Units (NTUs), increases shall not exceed 1 NTU; where natural turbidity is between 5 and 50 NTUs, increases shall not exceed 20%; where natural turbidity is between 50 and 100 NTUs, increases shall not exceed 10 NTUs; where natural turbidity is over 100 NTUs, increases shall not exceed 10%
Sample Biological Resource Outstandingly Remarkable Value Indicators and Standards	
<b>Indicator:</b>	The amount of bare ground or exposed roots within riverine habitats (generic biological resource Outstandingly Remarkable Value)
<b>Standard:</b>	No more than 10% of a 100 square foot use area shall be composed of bare ground or exposed roots as compared to a similar natural area
Sample Cultural Resource Outstandingly Remarkable Value Indicators and Standards	
<b>Indicator:</b>	The amount of soil compaction or soil loss (generic cultural resource Outstandingly Remarkable Value)
<b>Standard:</b>	No more than 5% soil loss within a 100-square-foot use as compared to a similar natural area
Sample Recreation Outstandingly Remarkable Value Indicators and Standards	
<b>Indicator:</b>	The number of visitors encountered upon a trail in a specified period of time (generic recreation Outstandingly Remarkable Value)
<b>Standard:</b>	The number of encounters is at a level visitors would find desirable (e.g., an average of no more than 5 groups within sight and sound along the trail at any given time)
<b>Indicator:</b>	The number of people at one time at a park feature (e.g., the Lower Yosemite Fall Bridge - generic recreation Outstandingly Remarkable Value)
<b>Standard:</b>	The number of people is within a level visitors would find tolerable (e.g., an average of no more than 25 groups at a park feature at any given time)
<b>Indicator:</b>	The number of people encountered while floating on the river during a specific period of time (generic recreation Outstandingly Remarkable Value)
<b>Standard:</b>	The number of encounters is at a level visitors would find acceptable (e.g., an average of no more than 10 groups are encountered at any given time)

measure impacts to the cultural, biological, and/or physical resources from visitor use. Social indicators measure impacts to the visitor experience caused by interactions with other visitors. Indicators should be specific, objective, reliable, related, responsive, nondestructive, sensitive to visitor use, and should address Outstandingly Remarkable Values. Standards should be quantitative, measurable, and feasible.

Table 3 on page 107 presents example indicators and standards for the Outstandingly Remarkable Values. These data are included for information purposes only and do not reflect approved indicators or standards.

## Monitoring

Detailed monitoring protocols will be developed for each standard to ensure accurate, valid data. Monitoring would begin as soon as a standard is selected and a monitoring protocol is developed.

## Management Actions

If monitoring reveals that a standard associated with a indicator is being violated, then desired conditions may not be realized and management action will be initiated. Management action can determine that the violation of the standard is caused by natural variation and that the standard needs to be adjusted or a new indicator and standard selected to better reflect desired conditions. Actions to manage or limit visitor use will be implemented when the standard is violated due to impacts associated with visitor use. Management could include the following (this list is subject to revision):

- Site management (e.g., facility design, barriers, site hardening, area/facility closure, redirection of visitors to suitable sites)
- Regulation (e.g., the number of people/stock, the location or time of visits, permitted activities, or allowable equipment)
- Enforcement of regulations (e.g., patrols, notification, citations)
- Education (e.g., information signs and exhibits, interpretive programs, visitor center exhibits, brochures and fliers, public meetings, meetings with user groups)
- Altering access (e.g., parking in proximity to sensitive resources, shuttle stops, bicycle access, etc.)

Management action will comply with the requirements of the National Environmental Policy Act, the National Historic Preservation Act, and other applicable legislation.

## Existing Management Actions

There are a number of existing policies and ongoing management actions that address user capacities and protect the Outstandingly Remarkable Values of the Merced Wild and Scenic River. These policies and management actions would continue and may be modified while the VERP framework is being developed and implemented for the Merced River corridor.

- Federal and state laws, Title 36 of the Code of Federal Regulations, and park-specific regulations based on the authority of 36 CFR (i.e., the Superintendent's Compendium) serve to protect Outstandingly Remarkable Values and address user capacities. These regulations include the ability to close specific areas to protect resources and address fishing, wildlife or plant collection, camping, sanitation and refuse, stock use, boating, swimming, bathing, noise, and commercial operations. An example of how the regulations have been applied to protect Outstandingly Remarkable Values is the closure of Cathedral Beach as a commercial raft removal point, which was closed to protect the riverbank.
- User capacities in designated Wilderness are addressed through the existing overnight trailhead quota system and limits on group size and number of stock allowed. This system was developed with the goal of protecting resources, and continued monitoring of resource conditions allows for modification of the quotas.
- Areas within and adjacent to the river corridor that have been restored or rehabilitated may be closed under the authority of the Superintendent's Compendium. Examples include closure of some highly used "social" trails that impact meadow and riparian communities.
- There are existing limitations on non-motorized boating. For instance, in 1996 limitations on commercial rafting were implemented in Yosemite Valley to enhance the visual quality of the river corridor. These limitations on the number of commercial raft rentals allowed and on the hours of use for rafts will continue and may be modified as necessary.
- Ongoing efforts to educate the public about river-related issues, through interpretive programs and ranger contacts, will continue and may be modified as necessary.

## What VERP Is Not

It is worth noting what VERP will not do.

- VERP does not specify the total number of visitors that the river corridor, as a whole, can accommodate at one time. Such an aggregate figure would mask problems at “hot spots” and would not provide managers with useful guidance for addressing use-related problems.
- As a framework for addressing user capacity, VERP is not driven by the capacity of existing infrastructure. Expanding or constructing facilities does not necessarily mitigate visitor use impacts to visitor experience or resources.
- VERP, as applied in the Merced Wild and Scenic River corridor, may not directly transfer to other areas of Yosemite National Park. It may be implemented elsewhere in the park at some future date; desired conditions, indicators, and standards are being developed with this possible expansion in mind. However, due to an emphasis on Outstandingly Remarkable Values and other factors, it is possible that future implementation of VERP outside of the Merced Wild and Scenic River corridor will not dovetail perfectly.
- VERP does not address impacts that do not result directly from visitor use. Impacts from park operations and management activities (e.g., fire management), natural variability (e.g., high water), development (e.g., construction, demolition), and other causes not directly associated with visitor activities are managed through other methods.
- VERP is not static. Visitor use patterns, desired visitor experiences, and resource conditions change with time. VERP is an iterative process of monitoring, evaluation, and adjustment.

## VERP Sequencing Plan

Yosemite National Park began development of the parkwide VERP framework in 1998 and continues to develop desired conditions, indicators, standards, and monitoring protocols. The VERP framework outlined herein for the Merced River corridor will be developed and implemented within five years after the final Record of Decision on the *Merced River Plan* and will dovetail with the larger, parkwide VERP program.

In the interim, Yosemite National Park will implement existing management activities (described above) and direction contained in this *Merced River Plan* (e.g., Wild and Scenic Rivers Act Section 7 determination, River Protection Overlay, management zoning



prescriptions) to address user capacity, protection and enhancement of Outstandingly Remarkable Values, and management of park resources, visitor use, and facilities. In addition, the National Park Service will initiate increased resource monitoring to ensure that conditions do not deteriorate. Appropriate management actions, consistent with existing management activities, will be implemented to prevent further degradation of resources.